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POMONA:

Henry OR, THE Clark

Fruit-Garden Illuſtrated.

Containing SURE METHODS for Improving all the

Beſt Kinds of FRUITS

Now EXTANT in

ENGLAND.

CALCULATED FROM

Great Variety of EXPERIMENTS made in all Kinds of SOILS and ASPECTS.

WHEREIN

The Manner of *Raiſing* YOUNG STOCKS, *Grafting*, *Inoculating*, *Planting*, *&c.* are clearly and fully demonſtrated.

With **DIRECTIONS,**

I. For PRUNING; wherein the *Reaſons*, *Manner*, and *Conſequences* thereof are clearly demonſtrated.

II. For NAILING; wherein the *true Diſtances* that the Branches of FRUIT-TREES are to be laid upon the Walls, are ſet forth: Being a moſt important and uſeful Diſcovery, unknown to Gardeners in general.

III. For PRESERVING their Bloſſoms from the *Injuries* of *Froſts*, *Winds*, &c.

IV. RULES for the THINNING of their *young-ſet Fruits*, ſo as to leave no more than Nature can ſtrongly ſupport, and ripen in the greateſt Perfection.

V. For *Preſerving* and *Ordering* YOUNG FRUITS, from their *Bloſſom* to the Time of their *Maturity*.

VI. To give them their *true Taſte* and *Colour* when fully grown, Seaſon of *Ripening*, Manner of *Gathering*, *Preſerving*, &c.

Likewiſe ſeveral Practical OBSERVATIONS on the *Imbibing Power* and *Perſpirations* of FRUIT-TREES; the ſeveral Effects of *Heat* and *Moiſture* tending to the *Growth* and *Maturity* of FRUITS.

To which is added,

A Curious ACCOUNT of the Moſt Valuable CYDER-FRUITS of DEVONSHIRE.

The Whole Illuſtrated with above Three Hundred DRAWINGS of the ſeveral FRUITS, Curiouſly Engraven on Seventy-nine large Folio Plates.

By *BATTY LANGLEY* of TWICKENHAM.

LONDON:

Printed for G. STRAHAN in *Cornhill*; R. GOSLING, W. MEARS, F. CLAY, D. BROWNE, B. MOTTE, and L. GILLIVER, near *Temple-bar*; J. STAGG in *Weſtminſter-Hall*; J. OSBORN, at *Gray's-Inn Gate*; and C. DAVIS in *Pater-Noſter-Row*. M.DCC.XXIX.

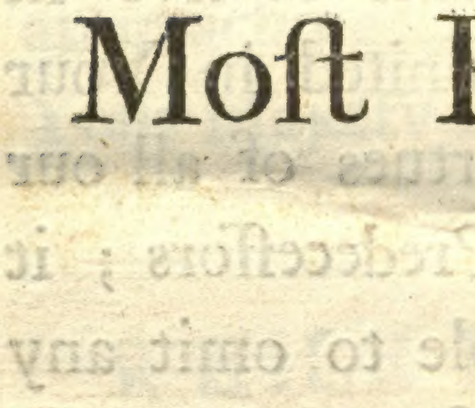
Mo. Bot. Garden,
1893

TO THE

QUEEN's

Moſt Excellent Majeſty.

MADAM,



OUR Majeſty's known Goodneſs, and exquiſite Knowledge in Horticulture, I humbly hope will excuſe my Preſumption in Dedicating to Your moſt Sacred Majeſty the enſuing Work; which I am bold to ſay, is an accurate Repreſentation of Vegetable Nature in her various Productions of the moſt valuable Fruits now extant in this Nation: Wherein her gradual Operations, thro' their ſeveral Degrees of Growth, to their Maturity, are exactly delineated and deſcrib'd.

TO attempt a Pourtraiture of Your Majeſty's Illuſtrious Character, would be an Undertaking ſuperior to the greateſt Genius, and intirely inexcuſable in one who has made theſe humble, though uſeful, Studies, his principal Employment, and has no Capacity, beſides an honeſt Zeal and ſincere Loyalty, for ſo arduous a Task.

BUT as we, who have the Happineſs to live in Your moſt auſpicious Reign, behold united in Your Sacred Majeſty the Perfections and Virtues of all our moſt Glorious Queens Your Royal Predeceſſors; it would be in ſome meaſure unpardonable to omit any Opportunity to expreſs our Gratitude for the Bleſſings heap'd upon us by Your Goodneſs.

WHILE his Sacred Majeſty, our moſt gracious Sovereign, imploys his important Cares for the Happineſs and Proſperity of his People, both at Home and Abroad, in order to ſecure to them their Rights and Privileges, and to preſerve and extend the Benefits of their Trade and Commerce, and is the Arbiter of *Europe*: You, MADAM, powerfully recommend to all Your Subjects, by Your own bright Example, the great Concerns of Religion and Virtue, and the Duties of a Private and Domeſtick Life.

BE

BE it the Task of a more elevated Genius to tranſmit to Poſterity the Illuſtrious Graces of Your Majeſty's Publick Character, together with the Exemplarineſs of Your Conjugal Affection, and Maternal Care of Your Royal Offspring (the future Hopes and Happineſs of this Kingdom); Your profound Knowledge in all Parts of Divine and Human Learning; Your Exemplary Piety, and that Gracious Affability and Condeſcenſion to all who have the Honour of approaching Your Royal Perſon, which is peculiar to Your Majeſty:

WHILE I indulge myſelf in the pleaſing Aſſurance, That to a Mind ſo exalted by Nature, and improved by Study, the Contemplation of the Works of the Great CREATOR, diſplay'd in the beautiful Productions of Vegetative Nature, contain'd in the copious Syſtem of Planting and Gardening, will be an agreeable Entertainment, when Your more arduous Affairs will permit Your Majeſty to enjoy the calm and peaceful Sweets of Solitude and Retirement.

THIS agreeable Aſſurance emboldens me to lay before Your Majeſty the following Obſervations and Experiments on the choiceſt Fruits which are produc'd in theſe Kingdoms: The right Ordering whereof being well underſtood, will render them Mature and Wholeſome,

Wholesome, and not a little contribute to the Health of Your People.

THAT Your Majesty may long continue an Ornament to the Royal Dignity, an Example to Your Sex, the Delight of Your Subjects, and Admiration of *Europe*, is the fervent Prayer of,

May it please Your MAJESTY,

Your Majesty's most Dutiful,

And most Loyal Subject,

Batty Langley.

THE

PREFACE.

ALTHO our ſhady Walks, Avenues, Groves, Wilderneſſes, Grotto's, Fountains, Canals, *&c.* (*of which I have endeavour'd to gratify the Curious with great Variety of Plans, after a Grand and more Rural Manner than has been done before, in my* New Principles of Gardening *lately publiſh'd*) *may be juſtly proportion'd, and truly executed in all their Parts, yet if they are not embelliſh'd with the beſt Kinds of Fruits now extant in* England, *it cannot be ſaid but that they are vaſtly ſhort of thoſe Beauties which make them truly Grand and Noble, as well as Profitable and Delightful.*

IF we do but conſider the various Forms and Colours of the Leaves of Fruit-Trees, and compare them with Foreſt-Trees, it will be found, that thoſe of Fruit-Trees are equally as beautiful: But when we compare their beautiful Bloſſoms, with which they are adorn'd in the Spring, their Fruits which ſucceed, and their Leaves alſo, with the bare Leaves of Foreſt-Trees only, 'tis evident that there's no manner of Compariſon between them.

BUT it is not to be underſtood, that becauſe the Beauties of Fruit-Trees are ſuperior to thoſe of Foreſt-Trees, that therefore Foreſt-Trees are to be rejected, and not receiv'd in our Gardens. And ſince that Fruit-Trees are known to be beautiful as well as profitable, 'tis therefore that I adviſe the Planting of them with Foreſt-Trees, in Wilderneſſes, and other Rural Parts of Gardens, that their various agreeable Mixtures of Leaves and Fruits, may not only delightfully entertain the Eyes of the Beholders, as they paſs thro' the ſeveral Meanders thereof, but their Taſte alſo.

BESIDES,

*

BESIDES, from Plantations of this Kind, there always ariſe great Profits, (excluſive of the aforeſaid Pleaſures) as for Inſtance, Apples and Pears produce good Cyder and Perry; Gooſeberries and Currants good Wine; Cherries and Rasberries fine Mixtures in Brandy, &c. *beſides the many Services in the Kitchen for Tarts,* &c. *all which are very ſerviceable and advantageous to a Family, and therefore is moſt humbly recommended to the Conſideration of the Judicious.*

AS I have thus adviſed the Planting of ſuch Fruits which ripen very well in the open Air; namely, Cherries, Plumbs, Pears, Apples, Strawberries, Rasberries, Gooſeberries, Currants, *&c. I ſhall now proceed to ſay ſomething relating to the moſt deſired Fruits, namely, thoſe produced againſt Walls.*

THE moſt valuable Wall-Fruits in England, *are* Cherries, Plumbs, Apricots, Peaches, Grapes, Figs, *and* Pears, *of which we have a very great Variety, that are truly good, when well order'd, in kind Seaſons; But, to the great Misfortune of moſt of our Nobility and Gentry, 'tis very ſeldom that they have any that are truly good, when Seaſons are kind, notwithſtanding the very great Expences they are at, except by an Accident, when Nature herſelf has acted the Part of a judicious Gardener; and the Reaſons thereof wholly unknown to the Gardener under whoſe Direction ſhe has been.*

IT is as impoſſible that Fruits can be mature and ripen'd in their greateſt Perfection, when their Juices are full of Crudities, that are confin'd in them for want of a free Perſpiration, as it is for Nature equally to ſupport ten Dozen of Peaches, &c. *with the ſame Nouriſhment as when there is but a Dozen and half, or two Dozen at moſt: But this is not the direct Fault of Gardeners, for as there's no one of them now in* England, (*the ingenious Mr.* Miller *of the Phyſick Garden at* Chelſea *excepted*) *that knows* (*or ever thought*) *of Crudities being contain'd in the Juices of Fruits, which, when confin'd, cauſe their Taſtes to be watery and inſipid; or that ſuch Crudities are diſcharged by Perſpiration,* (*very few of whom know the Meaning of the Word*) *they are not to be blamed for what they never knew, and therefore 'tis no wonder that bad Fruits have been annually produced in great Quantities, even*

when

when Seaſons were very kind. And as the Perſpiration of Fruits is a new Diſcovery, their paſt Errors are pardonable; but for the future 'tis expected, that they are no more practiſed, and the following ſtrictly executed, whereby every Gentleman will receive his Fruits in the utmoſt Perfection, that his Soil and the Seaſon can produce.

THE following Works are, in general, Matters of Fact, digeſted in ſuch a Manner as to be read by every one that deſires to know the Reaſons and Conſequences of all their Operations, which I humbly conceive will be no leſs Delightful than Profitable; the Whole being a new Scene of Nature, wherein her wonderful Methods of Working, thro'out her various Productions, are fully demonſtrated, in a conciſe and eaſy Manner, calculated to the Underſtanding of the meaneſt Capacity, as well as the moſt Polite and Learned herein.

'TIS very probable, that, at the firſt Sight hereof, Gardeners may be unwilling to depart from their old, uncertain, conceited Methods, believing themſelves either too old, or too well learned, to learn more than they already know; or may imagine, that what is here offered for their Improvements, may be bare Chimera's only, like unto all which has been wrote on this Subject by Theorical Gardeners, who never had (or were bred to) Practice. But however, if they will but temperately read, conſider, and make Experiments on ſome of their Trees, Experience will ſoon convince them of their miſtaken Opinions therein.

IT is a very great Miſtake and Misfortune, when Noblemen and Gentlemen cannot be fix'd with good Gardeners, but are always changing, and very often from a bad to a worſe, which at firſt is not diſcover'd, till ſome terrible Stroke is made among the Fruit-Trees, perhaps to the utter Ruin of them, and then 'tis too late to be retrieved.

THERE is a certain Kind of People in England, *who having been employ'd in the labouring Part of Gardening, perhaps but for one Month only, will then put on Aprons, and call themſelves Gardeners, tho', at the ſame time, they in fact are no more than Wheel-barrow Men, and very often hardly worthy of that Office.*

BY that time that these Sort of People have continu'd in such Employs about the Space of a Year, they begin to enquire what Gentlemen want Gardeners; and as soon as they hear of any, away they go and offer their Service, saying, that they are true-bred Gardeners; that they help'd to make such a Nobleman's Garden; nay, very often will have the Impudence to say, that they actually made it, tho' but a Wheel-barrow Man at most, as I observ'd before; and to close up the Whole, make use of the Name of some eminent Nursery-Man, or Gardener, under whom they say they were instructed, tho' perhaps they are wholly unknown to him.

AND if they can by any means come to know what Wages the last Gardener was paid, they always ask much less; that is, if the former Gardener serv'd for 20 l. per Ann. *they will serve for* 15, 12, 10, *nay, for* 8, *rather than stand out; and upon that Account have been very often employ'd.*

NOW when a Gentleman has first been at a great Expence in building new Walls, purchasing Trees, preparing the Soil, planting them; and afterwards five or six Years Expences in their Ordering, under the Government of a good Gardener, and is then in Hopes, and a fair Way of receiving good Store of Fruits for his Expences and Labour; why then, perhaps upon some trifling Account or other, the Gardener who planted and brought them into that fine fruitful State, is discharged, and one of the aforesaid Pretenders received into his Place, who immediately begins either to cut or slay, without either Fear or Wit, or otherwise suffers them to grow in such disorderly Manner, that after one single Year's Growth, 'tis not in the Power of a skilful Pruner to recover them to the same State, as when they were first committed into the Hands of their Executioner, under the Space of three or four Years at the least.

OF these Pretenders we have great Numbers annually imported from the Northern Parts, who very probably might in time be as good Gardeners as any in England, *had they but Modesty enough to be well instructed by our* English *Gardeners, before they attempt such Undertakings.*

IT is alſo a very great Miſtake in Gentlemen, who Lett their Gardens to be kept by the Year, to Undertakers, who generally Lett them again to Gardeners under them, at ſuch very low Rates, that, to ſave themſelves, they are forc'd to ſlight and hurry over every Part in the very worſt Manner, to the great Prejudice of well-planted Gardens.

AT Twickenham, *in the County of* Middleſex, *is an Inſtance of this Kind, where it unhappily falls out, that the very beſt Garden of that County, nay, I may juſtly ſay the only one in* England; *for ſuch another curious Collection of valuable Fruits is not be found in one Garden in this Kingdom; is made a Sacrifice thereby: And I am credibly inform'd by a Labourer thereof, that the Gardener who now has the Care of it, under the Undertaker, attempted, the laſt Winter, to lett the Pruning and Nailing of thoſe moſt valuable Wall-Fruits to the Labourers, at Three-pence* per *Rod.*

I MUST confeſs that I was grieved to hear it, for finer Trees are not in England; *and the Price being ſo very ſmall, the Labourers could not undertake the Work, and thereby they eſcaped, in Part, the Fury of the unskilful Knife. However, to diſpatch them in as expeditious a Manner as poſſible, the Labourers were ſet to Work by the Day, and left to their own Diſcretion, altho' they knew nothing of the Matter, any more than making ſmooth Walls, which they ſucceeded in; for not knowing the Bloſſom-Buds from the Leaf-Buds, they cut away the greateſt Part of the Fruits: So that during this Manner of Keeping, there has been very few, or ſcarcely any Fruits in the whole Garden, notwithſtanding that it conſiſts of upwards of Twenty Acres, and did ſeldom or never fail of being very fruitful before.*

IF I may may be permitted to give my Opinion, with Relation to the Pruning of Fruit-Trees in large Gardens, I humbly conceive that their Pruning is the direct Buſineſs of the Head Gardener himſelf, and no other Perſon whatſoever, excepting that any of his Underlings have been well inſtructed therein, who may then, under his Eye, perform a Part thereof. For one experienc'd Pruner will perform more Work in one Seaſon, than any Nobleman or Gentleman's Table can require: and therefore when unskilful People (as aforeſaid) are employ'd in ſuch Works, either

by the Indiſcretion of the Gardener under whom they Work, or thro' his Idleneſs, the Gentleman whom they ſerve, is certain of being greatly injur'd, and very often his Trees are totally ruin'd thereby.

WHEN Gentlemen are determin'd to Lett the Keeping of their Gardens by the Year, 'tis much to their Advantage, to Lett them to the Gardeners themſelves, who are employ'd on the Spot, and not to Undertakers, who muſt have a Fleece out of the Yearly Allowance for doing nothing: therefore my Advice is, That ſome reputable Gardener be choſen, and the annual Sum in Groſs allow'd him; for then whatever happens amiſs he is wholly anſwerable for it.

BY this Way of proceeding, the Gentleman will be ſure of having no Room for Excuſes for want of Help; he will be ſure of keeping his moſt valuable Fruits, Flowers, Roots, and Plants, in his own Garden, which many Undertakers are very apt to take a Liking to. And, in a Word, if Buſineſs is to be well done in this Manner, it muſt certainly be beſt when the Gardener reaps the whole Gain that is allow'd for his Labour, and Expences therein.

THUS much by Way of Caution, with Reſpect to the Buſineſs of Pruning and Keeping of Gardens; I now recommend you to Practice, which is fully declared in the following Chapters.

Twickenham, July 25, 1728.

BATTY LANGLEY.

AN

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ADVERTISEMENT.

To the NOBILITY *and* GENTRY *of* GREAT-BRITAIN, *and* IRELAND.

WHEREAS the Pleasure of Gardens, and Success of Plantations wholly depend on the Manner of Laying out, and Judgment in the Choice and Planting such Kinds of Trees, that are most Natural to their Soils: This is to give Notice, That the Author's Advice may be readily commanded to any Part of *Great Britain* or *Ireland*.

BY WHOM

Buildings in General, are Survey'd, Measur'd and Valued.

As also

Timber Growing or Fell'd,

Grotto's, Bath's, Fountains, Cascades, &c. made, and Engines for raising Water to any Height required; Cities, Lordships, Estates, &c. most accurately Survey'd, Measur'd and Map'd, and Sun-Dials of all Kinds made for any Latitude.

POMONA:

OR, THE

FRUIT-GARDEN

ILLUSTRATED.

CHAP. I.

Of EARTHS.

THE first and moſt neceſſary Work to be done, before we begin our Plantations, is, Either to make Choice of a proper Soil, or prepare ſuch as we have, fit for the Reception of thoſe Fruits which we deſire to propagate.

ALL the ſeveral Kinds of Soils may be reduced to Three, *viz.* Sand, Loam, and Clay; but 'tis my Belief, that Sand (only) is the pure primitive Earth, and all others but Compounds: For, as Mr. *Bradley* juſtly obſerves in his *Works of Nature*, That Sand being moiſten'd with Water, and worked in the Hand to a Lump, and afterwards dried in the Sun, will, when thoroughly dried, fall down into a

Heap of Sand as before; but if 'tis moiſten'd in the ſame Manner with Oil, and laid in the Sun to dry, it will incorporate, and become a very hard Subſtance. So, from hence 'tis very probable, that different Natures, Colours, and Textures of Earths, are alter'd, according to the ſeveral Natures of the various Juices with which they are mix'd.

NOW ſeeing that Oily Juices will incorporate with Sand, and become a hard rough Subſtance, and that more or leſs in Proportion to the Quantity of the Oily Particles contained therein; 'tis very probable that from thence it is, that the ſeveral Sorts of Clays are generated.

THE ſeveral Colours of both Sand and Clay, may very probably proceed from the different Colours of their Juices; for Sand moiſten'd with Water has a different Colour from that mix'd with Milk, Oil, *&c.* Experience demonſtrates, that Sand mix'd with Clay, makes a compound Earth called Loam; which differs in its Nature, according to the Proportion contain'd between each other.

EQUAL Quantities of Sand and Clay, perfectly mix'd together, makes the beſt (and is called a Middling) Loam.

TWO *Thirds* Clay, and one Third Sand, makes a very ſtrong Loam, uſually called Brick-Earth. Theſe two Kinds of Loams are the very beſt Soils for Apples, Pears, Plumbs, Apricots, and Quinces: The firſt for the Surface, or firſt *Strata*; and the laſt for the Bottom, or loweſt *Strata*.

TWO Thirds Sand, and one Third Clay, makes a light Loam, uſually called Light-Land. Theſe two laſt are the beſt Soils for Cherries, Peaches, Figs, Vines, *&c.* this laſt Compoſition being the firſt *Strata*, or Surface, and the preceding the Bottom or next lower *Strata*.

VINES delight in rich warm Soils, and therefore the Sand ought to be in greater Proportion then the preceding.

THE

THE Depth of theſe two *Stratas* taken together, needs never be more than two Feet, (*viz.*) The firſt *Strata*, or Surface, 16 Inches, and the Bottom, or next loweſt *Strata*, 8 Inches: For whatever Nouriſhment is imbibed by Trees below this Depth, is crude and undigeſted for want of Heat; therefore whenever Fruit Trees are ſuffer'd to ſtrike their Tap-Roots ſo very deep, they immediately become luxurious, and their Fruits inſipid, by the over and above Crudity of the Sap imbibed from below.

IT has been the Practice of many eminent Gardeners, to make their Borders for Fruit Trees full three Feet deep; and Mr. *Wiſe* and Mr. *London*, nay, and even Mr. *Carpenter* alſo, recommends the making of Earth full three Feet deep, in their *French* Tranſlation of the *Retired Gardener*, without conſidering the different Degrees of Heat in the Earth, from 1 to 36 Inches deep.

THE Reverend and Learned Mr. *Hales*, in his *Vegetable Staticks*, *p.* 64. has proved, That at two Feet Depth, 'tis 27 Degrees colder than on the Surface, and conſequently the deeper we go afterwards, the more colder and crude is the Nouriſhment.

IF we are ſo happy as to have the Liberty of making our own Choice of a Soil for our Plantation, I adviſe that it be Land which has not been diſturbed by either Spade or Plough within the Space of 50 or 60 Years, and continually fed with Cattle: That it be a kind, moderate, ſandy Loam, of two Spits in Depth, its Bottom inclinable to a Brick-Earth, with a moderate Reclination towards the South, or South declining Eaſt about 20 Degrees; and the Springs, about ten, twelve, *&c.* Feet below the Surface.

TO make Choice of Soils, by their Smells, Taſtes, *&c.* as Mr. *Wiſe* agrees to, in his Treatiſe aforeſaid, is very difficult; for notwithſtanding that their Steams, or Taſtes, may be diſagreeable to our Palates, yet 'tis very probable that they may be agreeable to Plants, when Nature has prepared them fit for their Nouriſhment. Beſides, 'tis not in our Powers to determine the Nature of Soils by Smell or Taſte; becauſe that all Soils contain a great Variety of Juices; ſome neceſſary for the

the Support of one Kind of Plants, others for other Kinds, which Nature can diſtinguiſh and make proper Choice of; but we cannot; for when we ſmell or taſte, 'tis all the Juices mixt together. Extream Drought, or extream Wet, cauſes Barrenneſs in all Kinds of Soils; *Sand*, and *Clay*, moderately moiſtened, will produce divers Vegetables, as well Timber as Fruit-Trees: The *Engliſh* Elm, Cherry, Peach, *&c.* will grow in a moiſt Sand, and the Oak, Pear, Apple, *&c.* in a ſtrong Clay.

BUT when theſe Trees are planted in a moderate moiſt Loam, their Growths are much greater in the ſame Time; and the like of almoſt every other Plant in the Garden. Therefore when Nature has not ſo well prepared our Soil, as the Natures of our Trees require, we muſt endeavour to make good ſuch Defects by Art.

LANDS that are very light and ſandy, are beſt manured with Clay, Mud of Rivers, Ponds, *&c.* and thoſe that are clayey, ſtiff, wet, *&c.* with Sand, Sea-coal-aſhes, Street-dirt, and Horſe-dung, well mixt together. Pigeon's-dung is alſo a good Manure for cold Lands, being uſed with Diſcretion.

ALL Kinds of Loams, require leſs Help than either Sands or Clays; but we muſt not therefore drive Nature beyond its Strength. The beſt Compoſt for Manuring a good moderate Loam, is Horſe-dung, Cow-dung, and a ſmall Quantity of Sea-coal-aſhes, well mixt with the uppermoſt Spit of a freſh Meadow, in a Leſtal, for Six Months before. Rotten Leaves and the Bottom of Wood-piles, are alſo good Manures for ſtrong Loams.

ALL Kinds of Soils are greatly improved by early Ridging, for light and ſandy Lands are made thereby capable of receiving the whole Benefits of Rains, Snow, *&c.* that fall in the Winter, and clayey ſtrong Lands are made mellow, and fit for the Reception of Seed and Plants in the *Spring*. And Loams in general, are not only meliorated and ſweetned, by having their Crudities exhaled away by the Sun, Winds, *&c.* but are enabled to imbibe freely the great Benefits of Moiſture, throughout the whole *Winter*, as well as the genial Heat of the Sun, in the *Spring*; which are the very Life and Support of thoſe Vegetables that we deſire to propagate.

CHAP. II.

Of the PRINCIPLES *of* VEGETABLES.

IT is well known to Chymiſts that Vegetables are compoſed of Five Principles, *viz.* Sulphur, Volatile Salt, Water, Air, and Earth, and ſince that their Nouriſhment is in greateſt Part communicated to them at their Roots, 'tis very reaſonable to believe, that when the Earth is capable of nouriſhing and ſupporting the Growth of Plants, ſhe is then furniſhed with ſufficient Quantities of the Firſt Four Principles, namely, Sulphur, Volatile Salt, Water, and Air.

BY the preceding Chapter it appears, that the more or leſs Quantity of oily Juices Earths are mixed with, ſo are they more or leſs capable of receiving Water, Air, *&c.* For Sand and light Loams, will imbibe Water, with much greater Velocity than Clay and very ſtrong Loams. For the Firſt having little or no oily Particles mixt in their Juices, admit of a free Entrance; but the Clay and ſtrong Loams, having great Quantities thereof, reſiſt the Water's free Paſſage therein.

NOW, as Earths are differently ſtored with theſe oily Particles, ſo are they more or leſs furniſhed with each of the aforeſaid Principles: Which ſeems to be a wiſe Order of Nature. For as Vegetables are differently compoſed of their Principles, ſo are the ſeveral Kinds of Earths furniſhed therewith, whereby Nature has adapted every Plant to its proper Soil, wherein 'twill thrive beſt.

SUPPOSE an Oak to be compoſed of equal Principles, *viz.* one Fifth of Volatile Salt, one Fifth of Sulphur, one Fifth of Water, one Fifth of Air, and one Fifth of Earth;

THEN the Nouriſhment truly natural to the Oak, is of each an equal Quantity: But when theſe Principles are unequally mixt, be it more or leſs, in any other Soil, and the Oak is tranſplanted therein, the Growth will be retarded proportionably; becauſe the unequal Mixture of the ſeveral Principles are diſproportionable to thoſe of which the Oak is compoſed.

HENCE it is that Alders, Willows, Poplars, *&c.* which have great Quantities of Water in them, cannot thrive in hot and dry Lands. And contrarily, the Oak, Beech, Cherry, Peach, *&c.* cannot thrive in very wet Lands, where the Quantity of Water is in too great a Quantity for their Support, which rather diſunites their Principles, than ſupports them. Therefore to be certain of adapting every Plant to its proper Soil, we muſt firſt examine the exact Quantities of each Principle that's contain'd in every Plant we would propagate, as alſo in the Soils we intend to cultivate. And then, if we plant our ſeveral Soils with ſuch Vegetables whoſe Principles are found to be equal, or nearly equal to thoſe of the Soils, we may aſſure our ſelves of Succeſs, and work with Certainty; whereas what has been hitherto well done by every one in Planting and Gardening, has been by mere Chance only.

'TIS true, that theſe Inquiries into Vegetable Nature are beyond the Reach of ordinary Capacities, and require abundance of Accuracy, Judgment, and Time, which may hinder many from making Reſearches therein; but were ſuch a Work judiciouſly compleated, 'twould render the Practice of Gardening certain and ſucceſsful.

IT is with no ſmall Concern, that the great Hurry of Buſineſs, and Want of Time, have prevented the compleating of theſe ſo-much wanted Experiments, which I ſhould gladly have obliged the World with, at this Inſtant, ſince they are the very Baſis and Life of Planting and Gardening. But if Life permits, I ſhall very ſpeedily accompliſh them; which with the greateſt Accuracy and Juſtneſs will be communicated, that every Lover of Planting and Gardening, may have a true Underſtanding of their ſeveral different Natures and Qualities, and thereby be always certain of their deſired Succeſs.

CHAP.

CHAP. III.

Of the Moisture *contained in the Earth, for the Production and Support of Plants.*

AS Light is imperfect when deprived of any one of the several Colours, of which 'tis compoſed, which the Priſm exhibits; ſo likewiſe are Vegetables imperfect, when any one of their Principles is wanting. And 'tis very probable, when that moſt neceſſary Principle, WATER, is wanting, that the Principles of Volatile Salt, and Sulphur, are alſo wanting. For 'tis more reaſonable to believe that they are contain'd in Water, rather than in Earth.

THIS is in great meaſure proved by Nature, who produces ſeveral Vegetables, as Spear-mint, and many other aquatick Plants, without the leaſt Aſſiſtance of Earth; nay, there are many Vegetables that live and thrive with the Humidity of Air only. But the Authors of the *Retir'd Gardener*, Mr. *London*, Mr. *Wiſe*, and Mr. *Carpenter*, do in general ſeem to aſſert the contrary, *p.* 9. where the *Frenchman* ſays, and they agree to it, " *You will allow, with all the World, that Heat and* " *Moiſture are the two Principles that give Life to Vegetables; and* " *the Reaſon of this is, That there is a Kind of Salt in the Earth,* " *which animates and ſets it upon Action.*

" *NOW this Salt can have no Influence unleſs it be diſſolved, for* " *whilſt it is, as it were, fetter'd to the Earth, and ſerves to compoſe* " *the ſame Maſs with it, it's uncapable of doing any thing neceſſary to* " *a new Production; but when the Water has diſſolved the Salt, and* " *mingled it with the Parts of the Earth, the Parts thus animated,* " *ſeparate and communicate themſelves to the Root of the Plants that* " *receive their Nouriſhment from them.*"

I CAN'T

I CAN'T ſee wherein the Philoſophy of theſe Gentlemen conſiſts, for the Salt of Vegetables is volatile, and not a groſs Body, and therefore has no occaſion of a Diſſolution to prepare its Parts fit for the Nouriſhment of Plants.

AND again, if this vegetative Salt were contained in the Earth, why then in very hot and dry Seaſons, when no Rains fall in the Space of ſix or ſeven Weeks, and the Earth becomes ſo dry as to be unfit for Vegetation, the Plants thereof muſt periſh: Becauſe that the Dews (tho' perhaps very great) are of themſelves incapable of penetrating the Earth deep enough to diſſolve the Salt therein contained; which they ſay muſt be diſſolved, before it can do any Thing neceſſary to a new Production. But on the contrary, 'tis ſeen that Plants do not periſh, but oftentimes make new Productions in thoſe very dry Seaſons, which is a convincing Proof that their nutritive Salt muſt be contained in the Dews, which are then their chief Support, and not in the dry Earth, which is then render'd nearly incapable of Action.

IF theſe Gentlemen had made Experiments of their own, and ſtrict Reſearches into the wonderful Operations of Nature, they might have diſcover'd many of her ſurprizing Ways of working.

THEY might have ſeen what Preparations are made in the Leaves, Buds, and Barks of Vegetables, to imbibe Nouriſhment from Dews, when their Roots are incapable of communicating any, as well as to perſpire it away when plentifully ſupplied therewith: For all the Moiſture imbibed by Trees, *&c.* at their Roots, is not wholly imploy'd in making of Sap, forming new Buds, Branches, *&c.* as is generally believed—(But this I ſhall fully handle in its Place)—They would alſo have known the great Power that Air hath on the Growth of Vegetables; how it ſtrongly attracts when in a fix'd State, and repels in an elaſtick State: How it helps to diſtend their tender ductile Parts, and invigorates their Sap: And how, by its mixing with the other Principles, they are thereby aſſimulated into the Nouriſhment of the ſeveral Parts of the Vegetable, whereby its Growth is carried on to the greateſt Maturity: How the Growth of Vegetables is perform'd by the infinite Combinations, Action and Re-action of their Principles; and that the volatile Salt,

and

and Sulphurous Particles of Vegetables, are contained in Rains and Dews, and not a Part of the Earth, as they imagin'd.

BUT pardon me for this long Digreſſion, and I will proceed to the Subject in Hand.

THE Quantity of Moiſture neceſſary for the Support of Plants, ſhould be in Proportion to their ſeveral Natures; for ſome delight in much, and others in leſs, *&c.* and therefore Nature has agreeably, at different Depths, furniſh'd the Surface of the Earth with ſuch Quantities as are neceſſary to ſupport their ſeveral Natures.

AND 'tis obſervable, that thoſe Plants whoſe Nature require but little Moiſture, are ſhallow rooted; but thoſe that delight in much, extend their Roots to greater Depths.

I HAVE made divers Experiments, in great Variety of Soils, to diſcover the Quantity of Moiſture that Nature had provided for the Support of Plants in dry Seaſons, and find, that the greateſt Quantity is always contained in the ſecond Foot below the Surface; which is an undeniable Direction for the Depths of Soils.

AND the Reverend Mr. *Hales* has alſo proved the ſame, in his *Vegetable Staticks*, *p.* 51. in the Manner following:

ON the laſt Day of *July*, in the Year 1724. he dug up a Cubick Foot of Earth from the Surface of an Alley in his Garden; and putting it into a Cubical Veſſel, whoſe Weight was before known, he weighed it, and found its Weight equal to 104 Pounds one Fourth, *Averdupois*.

THIS done, he dug up a ſecond Cubical Foot of Earth from the Bottom of the firſt, whoſe Weight was 106 Pounds ſix Ounces: And, laſtly, a third Cubical Foot from the Bottom of the ſecond, which weighed 111 Pounds + one Third.

THESE three Feet in Depth were a good Brick-Earth; but below them a Gravel of two Feet depth, under which the Springs did then run.

I weighed a Cubical Foot of Rain Water, and found its Weight to be nearly 50 Pounds *Averdupois*, which is very little more than half the ſpecifick Gravity of Earth: But Spring-water is oftentimes ſomething heavier, according to the different Nature of the Earth or Mineral from which it ſprings.

AFTER theſe three ſeveral Cubick Feet of Earth were weighed, they were laid thin, that their Moiſture might be the ſooner exhaled; and 'twas found, that when the firſt Cubick Foot was become ſo dry and duſty as to be unfit for Vegetation, it had loſt ſix Pounds + eleven Ounces of Water, which is near one Eight Part of its firſt Bulk.

THE ſecond Cubick Foot being not ſo dry when the firſt was weighed, was left ſome Days longer, and being then weighed, had loſt ten Pounds of its Weight.

THE third Cubick Foot being very dry, had loſt eight Pounds + eight Ounces, *viz.* one Seventh Part of its firſt Bulk.

FROM theſe Experiments it appears, That the ſecond Cubick Foot decreaſed in Weight the moſt, (but indeed 'twas ſome ſmall Matter dryer than either the firſt or third) and *conſequently contained as much* or more Moiſture *than that* next below it. And 'tis obſerveable, that the Roots of moſt Plants that are of a large and quick Growth, poſſeſs that Depth, probably, becauſe in that Depth the Juices are meliorated and made fitter for the Nouriſhment of Plants, than thoſe that are deeper, which, for want of the genial Heat of the Sun (being crude and unprepared) are unfit for the Support of Vegetables.

BUT notwithſtanding that the Moiſture in the three next lower *Strata's* is not ſo well prepared for the Nouriſhment of Plants; yet 'tis abſolutely neceſſary that it ſhould be there in Store, to ſucceed that which is imbibed and perſpired away by Plants, as they advance in Growth: For if there was not a Succeſſion of Moiſture conſtantly aſcending, 'twould be impoſſible for Plants to live in very dry Seaſons; which will appear when I come to demonſtrate the Quantities of Moiſture imbibed and perſpired by Plants.

AND it is from theſe Supplies of Moiſture, that deep Soils ſupport their Plants in very dry Seaſons, when thoſe on ſhallow dry-bottom'd Lands periſh: For tho' the Moiſture of theſe deep *Stratas* is not fit for the Nouriſhment of Plants, when ſo very deep, yet as it aſcends and comes nearer to the Surface, 'tis better prepared, and at length made fit for their Reception.

THE Moiſture contain'd in the lower *Strata's*, is, in ſome meaſure, rais'd by the attractive Power of the Sun, as well as by the imbibing Force of Vegetables; which laſt is undoubtedly much ſtronger than the firſt, becauſe thoſe Countries which greatly abound with Woods, have greater Rains than thoſe that are unplanted: For the Roots of Trees having a very great imbibing Force, do draw up and imbibe great Quantities of Moiſture, which they are continually perſpiring away at their Leaves, and thereby furniſh the Atmoſphere with great Quantities of Water, which unplanted Lands cannot do.

'TIS obſervable that Rains will freely penetrate the Earth Two Feet deep, but ſeldom freely deeper, therefore at that Depth there is contain'd not only the Rain Water, but the Spring Water alſo, in ſuch Quantity as 'tis raiſed by the Two attractive Powers aforeſaid: Which Depth Nature ſeems wiſely to have choſen, not only that the genial Heat of the Sun can there prepare the crude rancid Moiſture fit for the Nouriſhment of Vegetables, but the ſcorching Rays of the Sun, and drying Winds, cannot preſently exhale away the neceſſary Moiſture, ſo as to deprive Plants of their Support.

IF any doubt the Aſcenſion of Moiſture, let them read Mr. *Hales's* *Vegetable Staticks*, Pag. 54. and 55. Having thus explain'd the Manner of Nature's ſupplying Plants with Moiſture in hot and dry Seaſons, from the loweſt Strata's of the Earth; perhaps it mayn't be amiſs if I ſhould ſpeak a Word or two, in relation to Dews, which are very refreſhing to Plants in dry and hot Seaſons.

BY an Experiment made *Auguſt* 15. by Mr. *Hales* (*vide* his *Staticks*, Pag. 53.) it appears, that two glazed Earthen Pans, which were three Inches deep, and twelve Inches Diameter in Surface, fill'd with pretty moiſt

moiſt Earth; increaſed in Weight by one Night's Dew, 180 Grains, and the next Day decreaſed, one Ounce + 282 Grains. And that nothing might add to, or ſubtract from, the Accuracy of this curious and uſeful Experiment, Mr. *Hales* placed thoſe two Pans, in two other broader Pans, to prevent any Moiſture ſticking to their Bottoms, which might make the Quantity of Dew fallen, ſeem to be greater than it actually was.

AND 'twas found that a greater Quantity of Dew fell on that Earth which was moſt moiſt, than on that which was drier, and more than a double Quantity on Water, than an equal Surface of moiſt Earth. For the Particles of Dew and Water being Homogeneous, do attract each other with a much greater Force, than *Earth* and *Dew* do, that are Heterogeneous.

" THE Evaporation of a Surface of Water in a Winter's Day of nine
" Hours, is $\frac{1}{21}$ of an Inch, of Ice ſet in the Shade for the ſame Space of
" time $\frac{1}{31}$ of an Inch.

NOW if from the above Quantity evaporated 762 Grains, which are equal to 1 Ounce + 282 Grains,

You ſubtract the Dew receiv'd in one Night	180
The Difference is - - - - - -	582

This Difference of 582 Grains is the extraordinary Quantity evaporated from a Circular Area of Earth of one Foot Diameter every 24 Hours in the Summer, more than falls in Dew in the Night. Which in 21 Days, is near 26 Ounces.

For	582	the Quantity daily evaporated,
Multiply'd by	21	the Number of Days;
	582	
	1164	
The Product is	12222	Grains.

And

And ſince 480 Grains is equal to one Ounce, therefore divide the Product 12222, by 480, as follows.

480)12222(25 Ounces.
960
2622
2400
222 Grains remaining, which are

but 258 Grains, ſhort of an Ounce complete, to make the whole 26 Ounces.

NOW to find the Quantity of Moiſture exhaled from a greater Quantity of Ground, as a Rod, Acre, *&c.* we muſt proceed as follows: But that every thing may be fully clear'd, I will go through the whole Operation, that every one may have a perfect Underſtanding; for the Knowledge thereof is of very great Importance to a good Gardener.

The circular Area before mentioned, being one Foot Diameter, its ſuperficial Quantity in Inches may be thus found, *viz.*

Square the Diameter, multiply the Product by eleven, and dividing the laſt Product by fourteen, the Quotient will be the Area required.

E *EXAMPLE.*

EXAMPLE.

The Diameter 12 Inches.
Multiplyed by 12

24
12

The firſt Product is 144
Which multiply by 11

144
144

144

The 2d Product, which divide by— 14)1584(113 $\frac{1}{7}$ The Quotient, which is the Number of ſquare Inches in the Area or Circle, whoſe Diameter was one Foot, or twelve Inches.

14

018
14

044
42

02 remains, which is equal to $\frac{2}{14}$ of the Diviſor, equal to one Seventh.

THE ſecond Work is, to find the Number of ſquare Inches in a ſquare Foot: Which is known by multiplying twelve Inches the one Side of the Square, by twelve, another Side of the Square, and the Product will be equal to 144, which is the Number of ſquare Inches contained in a ſquare Foot.

EXAMPLE.

EXAMPLE.

12 Inches, one Side of a Square Foot.
Multiply'd by 12 one of the other Sides.

24
120

The Product 144 Which are the Square Inches in a Square Foot as required.

THE third Work is to find the Number of Square Feet in a Square Rod, Pole, or Perch, which are alſo found by multiplying 16 Feet and a half, (the Number of Feet contained in a Rod in Length) by the ſame, and their Product is the Number of Square Feet required.

EXAMPLE.

	Feet.	*Inches.*
	16	06
	16	06
	96	00
	160	00
	8	00
	8	00
	0	03
The Product	272	03

Which are the Square Feet contained in one Square Rod as required.

AND as an Acre of Land contains 160 Poles, or Rods, the Calculation may be made for any Quantity required.

AS for Example;

A SQUARE Pole (whoſe Sides are ſeverally equal to 16 Feet $\frac{1}{2}$) contains 39204 Square Inches, which being divided by 113, the Area of the Circular Foot, omitting the Fraction, the Quotient is 346 $\frac{106}{113}$.

AND, as it has been proved, that in 21 Days near 26 Ounces were evaporated from one Circular Foot, therefore multiply 346 (the Number of Circular Feet in one Square Rod) by 26, (the Quantity evaporated from the Surface of a Circular Foot in 21 Days) and the Product will be 8996, which is very near the Quantity of Ounces that are evaporated from the Surface of one Rod in 21 Days.

IF 8996 be divided by 16, (the Ounces in a Pound *Averdupois*) the Quotient will be 562 $\frac{1}{4}$, the Quantity of Pounds Weight evaporated.

IF we admit, that one Pound of Water is equal to one Pint, we may eaſily reduce the 562 $\frac{1}{4}$ Pounds into Gallons: For 562 being divided by 8, the Number of Pints in a Gallon, the Quotient is 26 $\frac{16}{21}$, the Quantity of Gallons evaporated from one Square Rod in 21 Days.

NOW by the Rule of Proportion:

IF, in 21 Days, 8996 Ounces be evaporated from one Square Rod, what Quantity is evaporated from the ſame Surface in 21 Days?

ANSWER. 428 Ounces, equal to 26 Pounds 12 Ounces, equal to three Gallons, one Quart, and three Quarterns.

N. B. *IF the judicious Gardener does well conſider this, he will be eaſily led into the Reaſons of watering Plants in dry Seaſons.*

NOW, ſeeing that we have obtained the daily Evaporation of one Rod, I will proceed to a further Enquiry, *viz.* What Quantity of Moiſture is evaporated in the Space of a whole Summer; which I begin at the 15th of *May*, and end at the 15th of *October*, containing 154 Days.

BY the Rule of Proportion:

IF, from the Surface of one Rod, 428 Ounces are evaporated in one Day, what Quantity will be evaporated from the ſame Surface in 154 Days?

ANSWER. 65912 Ounces, equal to 4119 Pounds $\frac{1}{2}$, equal to 514 Gallons, $\frac{1}{2}$ Pint, equal to 14 Barrels, 10 Gallons, $\frac{1}{2}$ Pint.

NOW to find the Quantity of Moiſture evaporated from one Acre, in the ſame Time, proceed by the ſame Rule; *viz.*

IF from the Surface of one Rod, 65912 Ounces are evaporated in 154 Days, what Quantity will be evaporated from the Surface of an Acre (*viz.* 160 Rods) in the ſame Time?

ANSWER. 10545920 Ounces, equal to 659120 Pounds, equal to 82390 Gallons, equal to 2316 Barrels, 14 Gallons.

NOW, as we have made this Calculation, let us proceed a little further, and enquire what Depth of Water is evaporated from the Surface of the Earth every Day, whereby ſome Proof may be given for the preceding Calculation.

" *NIC. Crugnius* (as Mr. *Hales* obſerves, *p.* 55.) N° 381. of the " *Philoſophical Tranſactions*, found that 28 Inches Depth evaporated in " a whole Year from Water, *i. e.* $\frac{1}{12}$ of an Inch each Day, at a mean " Rate; but the Earth, in a Summer's Day, evaporated $\frac{1}{40}$ Part of an " Inch; ſo the Evaporation of a Surface of Water is to the Evaporation " of a Surface of Earth in Summer, as ten is to three."

FOR ſince that $\frac{1}{12}$ of an Inch is evaporated daily from Water, therefore, in twelve Days, there will be one entire Inch in Depth evaporated; and conſequently in 144 Days, (which is much about the Length of a Summer) one entire Foot in Depth, provided that Rains were not, or do not fall in that Time. From this we may eaſily account for the Waſte of Water in ſtagnant Fiſhponds, Canals, *&c.*

BUT ſince that the Earth doth evaporate but $\frac{1}{40}$ of an Inch in a Day, therefore one entire Inch in Depth cannot be evaporated under 40 Days.

AND as the firſt Cubical Foot of Earth, in the preceding Experiment, had waſted 194 Cubick Inches of Water, which render'd the

Earth unfit for Vegetation; therefore if from one Foot Square there are 144 Cubical Inches evaporated in 40 Days, 'twill require 53 Days $\frac{8}{9}$ to evaporate 194 Inches, to render the Earth as dry and unfit for Vegetation as aforesaid: Which 53 Days $\frac{8}{9}$, is about the one third Part of a Summer; and 'tis always seen, that when we are without Rains for so long a Space of Time, the Surface of the Earth, for a full Foot in Depth, is so very dry, as to be unfit for Vegetation.

BY the preceding Calculation it has been demonstrated, That 514 Gallons were evaporated from one Rod of Ground in 154 Days; but by the Evaporation of $\frac{1}{40}$ of an Inch in a Day, it appears to be something (tho' very little) more. I will demonstrate the same in the following Operation:

SINCE that two Square Feet contain 288 Square Inches, which are evaporated in 40 Days, and 288 Cubical Inches being equal to one Gallon, 'tis evident that one Square Foot that contains 144 Square Inches, being taken at one Inch in Depth, is equal to two Quarts, or half a Gallon; and consequently 272 Square Feet $\frac{1}{4}$, (which is equal to a Rod) doth evaporate in 40 Days, 272 times $\frac{1}{4}$ the Quantity of one Foot, which is equal to 545 Quarts, equal to 136 Gallons one Quart, equal to three Barrels $\frac{1}{9}$ and one Quart. *See the Operation.*

The Cubical Inches in one Gallon	288	
The Cubical Inches in two Quarts in a Square Foot.	144	equal to the Square Inches
The Number of Feet in a Square Rod	272 $\frac{1}{4}$	
Which multiply by - - - -	2	the Quarts contain'd in one Square Foot, at one Inch in Depth;
Product - - - - -	544	
To which add - - - - -	1	for the $\frac{1}{4}$ of a Foot multiplied by 2, equal to $\frac{1}{2}$ Foot, equal to one Quart. And
The Product is - - - -	545	Quarts, the Quantity evaporated from one Rod of Ground in the Space of 40 Days.

NOW

NOW divide 545 by 4, the Quarts in a Gallon;

4)545(136 $\frac{1}{4}$ the Number of Gallons.
4..

14
12

25
24
---
1 Remainder, equal to one Quart.

NOW ſay, If in 40 Days 136 Gallons are evaporated from the Surface of one Rod, how many are evaporated in 154 Days?

ANSWER. 523 $\frac{3}{5}$, which will appear by multiplying 154 by 136; and dividing their Product by 40, the Quotient will be 523 $\frac{3}{5}$, as aforeſaid. See the Operation.

THE Proportion is this;

40 : 136 : : 154 : 523; that is,

As 40 is to 136, ſo is 154 to 523: Therefore place your Numbers as following:

40 : 136 : : 154 : 523 $\frac{3}{5}$
136

924
462
154

The Product, which divide by 40)20944(523 $\frac{3}{5}$
200..

94
80

144
120
---
24 Remainer, equal to $\frac{24}{40}$, or, $\frac{12}{20}$, or $\frac{6}{10}$, or $\frac{3}{5}$.

NOW,

NOW, if we compare this Quantity thus obtain'd, with the other before obtain'd, we ſhall find their Differenee to be inconſiderable :

The Gallons before found to evaporate from one Rod in 154 Days, were - - - - - - - - -	514
The Gallons now found at $\frac{1}{40}$ of an Inch *per Diem* for 154 Days - - - - - - - - -	523
The Difference is - - - - - - -	9

Therefore the Evaporation of Earth is nearly $\frac{1}{40}$ of an Inch in a Day, as before ſaid. *Q. E. D.*

ACCORDING to the Experiments of the Reverend and Learned Mr. *Hales*, *p.* 56. it appears, " That the Quantity of Rain and Dew, " which falls in a Year, is at a *Medium* 22 Inches.

" THE Quantity of the Earths Evaporation in a Year, is, at leaſt, " 9 + $\frac{1}{2}$ Inches, ſince that is the Rate at which it evaporates in a Sum- " mer's Day.

" FROM which 9 + $\frac{1}{2}$ Inches, are to be deducted 3. 39 Inches, for " circulating Dew, *there remains* 6. 2. Which 6. 2 Inches deducted " from the Quantity of Rain which falls in a Year, there remains at " leaſt 16 Inches Depth, to repleniſh the Earth with Moiſture fit for " Vegetation, and to ſupply the Springs and Rivers."

THIS 16 Inches Depth of Water, with which the Earth is repleniſh'd, and Springs and Rivers ſupplied, would be all evaporated in the Space of 640 Days, which is but one Year and nine Months, three Weeks and three Days, were the Earth to be ſo long without Rains. So eaſily would the whole World be deſtroy'd, were we not to receive thoſe continual circulating Bleſſings of Rain and Dew : The Truth of which appears by the following Calculation :

IT has already been proved, that an Inch Depth of Water is evaporated in 40 Days; therefore multiply 16, the Inches Depth of Water for Support of Springs, *&c.* by 40, the Number of Days that one

Inch

Inch is evaporating, and the Product will be 640 Days, which being divided by 7, the Days in a Week, the Quotient will be 91 $\frac{3}{7}$ Weeks, equal to one Year, nine Months, three Weeks, and three Days.

The Days that one Inch deep is evaporating away, are 40

The mean Depth of Water in the Earth, for the Support of Rivers, Springs, Plants, &c. 16 Inches.

240
40

The Product: Which divide by - - - 7)640(91 Weeks, equal to one Year, nine Months, and three Weeks.
63
10
7
3 Days remain.

NOW, whilſt that 16 Inches deep are evaporating from the Earth, there will be at the ſame time, four Feet, five Inches, $\frac{1}{3}$ Depth of Water evaporated from Seas and Rivers; for (as before) it was ſhewn, that an Inch Depth of Water was evaporated in 12 Days; therefore if we divide 640, (the Number of Days the 16 Inches of Water is evaporating out of the Earth) by 12, (the Days that one Inch is evaporating from the Surface of the Water) the Quotient will be 53 $\frac{1}{3}$, which is the Depth of Water that would be evaporated in 640 Days.

12)640(53 $\frac{1}{3}$ Inches Depth.
60
40
36
4 Remains, equal to $\frac{1}{3}$.

WE having gone thro' ſuch Parts that have inform'd us how to account for the Quantity of Water that is daily evaporated by the Sun, &c. we ſhould now take ſome Notice of the Quantity of Moiſture that is imbibed from the Earth, by the Roots, and perſpired away thro' the Leaves of Plants.

FOR thereby we ſhall be able to determine what Moiſture is ſufficient for the Support of every Vegetable committed to our Care, and behold the great Beauties contained in their different Natures and Conſtitutions.

THE Experiment made by Mr. *Hales* on the Sun-Flower, (*p.* 4. *Vegetable Staticks*) will give us a very great Help herein: It was then obſerv'd, That the Space of Ground that its Roots occupied, evaporated ſomething more than ten Pounds, and two Ounces, in the Space of 21 Days, and the Plant imbibed at the ſame time 29 Pounds, therefore the Quantity evaporated and imbibed was 39 Pounds: And as the Roots occupied about four Cubical Feet of Ground, the Moiſture waſted by Evaporation and Perſpiration, was more than the Earth would have evaporated (had no Sun-Flower been planted in it) in the Space of 100 Days and upwards. For as we allow one Pound of Water to be a Pint, the 39 Pounds are 39 Pints; and ſince that one Pint contains 36 Cubical Inches, therefore 39 contains 1404.

39
36

234
117

Product 1404 the Number of Cubical Inches of Moiſture waſted from four Cubical Feet in 21 Days.

AND ſince that the Surface or ſuperficial Content of four Square Feet (the Surface of four Cubical Feet) is equal to 576 Inches; therefore divide 1404, by 576, and the Quotient will be 2 $\frac{352}{357}$ equal to $\frac{11}{18}$, which is ſomething more than 2 Inches $\frac{1}{2}$ in Depth, which requires more than 100 Days for its Evaporation.

144 the Inches in the upper Surface of 1 Cubical Foot,
Multiply'd by 4 the Number of Cubical Feet;
The Product is 576 By which divide 1404,

576)1404(2 $\frac{11}{18}$ The Depth on four Cubical Feet;
1152
---
352 Remainder, equal to $\frac{11}{18}$ when reduced.

NOW

NOW ſeeing that the Sun-Flower imbibed the Moiſture with very near three times the Velocity that the Sun evaporated it, *viz.* as 10 is to 29, which is very near as one is to three; when we water the Sun-Flower in very dry Seaſons, we ſhould allow four times the Moiſture that is evaporated by the Sun, which before was proved to be near 27 Pints to one Rod, *viz.* 108 Pints, which is equal to 13 Gallons ½ *per Diem.* And the like of all other Vegetables, in Proportion to their different Powers of Perſpiration.

IF all the beſt Kinds of Fruits were planted in Pots, and cover'd with Lead, as in the Experiment of the Sun-Flower, we might very eaſily know their different Powers of imbibing and perſpiring: But then Care muſt be taken to proportion the Magnitude of the ſeveral Plants, as near equal as can be, and to make the Weights of the ſeveral Pots and Earth equal; that by giving each Plant an equal Quantity of Water, we may every Evening ſee the Quantities perſpired, by the Difference of their Weights.

TO be very accurate in theſe Experiments, 'tis neceſſary to make Experiments on Plants of one, two, three, four, five, *&c.* Years Growth, that we might diſcover with what different Force they imbibe and perſpire, as they advanced in Age, and their Sap-Veſſels harden: And when we are thus inform'd of the different Powers of Perſpiration, we may, by comparing their Magnitudes with the Magnitudes of other Plants, know their Perſpirations alſo.

AND ſince that the Perſpiration of Plants will be found to be as different as the Degrees of Heat and Cold; 'twould be well worth our while to place Thermometers againſt our Plants, to know what Degrees of Heat cauſed ſuch and ſuch Perſpirations: And if againſt thoſe ſeveral Degrees were placed the Perſpirations of thoſe Plants, we might at all times afterwards behold and account for thoſe very great and wonderful Operations of Nature, which will be a continual Entertainment, as well as a Directory alſo, teaching us when and how we are to relieve our curious Plants and Fruits, in hot and dry Seaſons.

BUT as Experiments of this Nature muſt be begun early in the Spring, and obſerv'd thro'out a whole Summer, I therefore do intend (God willing) to begin this Work the next Spring, and continue it thro'out the whole Summer; after which I will communicate all my Obſervations thereon, for the Pleaſure and Improvement of thoſe that delight, and are concern'd in thoſe innocent Amuſements of Planting and Gardening.

CHAP. IV.

Of the Manner that Nature ſupports PLANTS *with* Moiſture, *and its Effects on the Growth of* TREES.

PLANTS are ſupported with Moiſture, by Rains, Dews, Springs, *&c.* which they receive at their Bark, Buds, and Leaves, as well as at their Roots.

IN warm and dry, or hot and dry Days, they receive their Nouriſhment at their Roots only, becauſe that then they are in a perſpiring State, and therefore muſt be ſupported at their Roots only; for Trees that grow in the open Air, cannot imbibe and perſpire at their Leaves, *&c.* at the ſame time: But in an Evening, when the Heat of the Day is over, then they are changed from their perſpiring to a ſtrongly imbibing State, imbibing plentifully the Dew and Rain, when any happen, at their Leaves and Bark, as well as the Moiſture of the Earth at their Roots.

IF any diſpute or doubt the Perſpiration of Plants, let them read Mr. *Hales*'s *Vegetable Staticks*, which, in fact, ſhould be read and well underſtood by every one that would underſtand the Reaſons of their ſeveral Operations in Gardening.

IN cool or wet Days, the Perſpiration of Plants is not ſo great, as in dry and hot Days; nay, very often they have no Perſpiration at all, but are in an imbibing State, eſpecially in warm wet Weather.

AND when cold wet Weather continues a long while, Trees become ſaturated with Moiſture; and then it is that their Sap is full of Crudities, for want of a drying Air to perſpire it away, which renders their Fruits immature, with inſipid Taſtes.

THIS is manifeſted when wet and cold Summers happen; and therefore, even for this only Reaſon, 'tis abſolutely neceſſary, that the Branches of Trees ſhould be kept very thin, ſo as to let in as much Air as is neceſſary to perſpire away the Crudities of the Sap.

THIS is the real Cauſe of the lower Branches of Trees, which ſtand thick together in a Wood, being dead, or very near it, whilſt thoſe on their very Tops are in a thriving healthy State.

FOR notwithſtanding that the lower Branches are neareſt to the Root, and conſequently receive their Sap before thoſe at the Top, yet for want of free drying Air, they cannot perſpire away the Crudities thereof, but, being ſaturated therewith, at length periſh; whilſt thoſe on the Tops, which always enjoy a free Air, tho' fartheſt from the Root, perſpire freely, and expand much. And on the contrary, Trees that ſtand ſingle, have their largeſt and ſtrongeſt Branches next the Roots, and the very weakeſt at their Tops; for ſuch Trees having a free Perſpiration in all their Parts, their lower Branches are firſt furniſh'd with Sap, which renders them ſtronger than thoſe that are higher, and laſt ſerved. And 'tis from this that Foreſt Trees acquire their beautiful Pyramidical Forms, the Force of the Sap being proportionably ſpent, in the ſeveral Stages of their lateral Branches, as they aſcend in Heighth.

AND as every Stage of Branches are ſhaded by the next above them, 'tis therefore that they become naked, and only produce Leaves at their Ends, as in the Caſe of Trees planted cloſe together in a Wood. But if the middle of Trees are kept open, as Dwarf Trees in Gardens, or very thin of Wood, then all their ſeveral Branches will have a free Perſpi-

ration in all their Parts, and conſequently be full of Buds, Leaves, and Shoots.

THIS I adviſe my Readers to conſider well, for hereon depends the whole Succeſs of our Labours, which I ſhall fully demonſtrate when I come to lay down the Reaſons and Manner of Pruning.

BY the preceding Account it appears, That 'tis very Beneficial to water the Leaves and Branches of Fruit Trees in an Evening, when Seaſons are very dry.

THE 20th Experiment of Mr. *Hales*, mention'd in his *Vegetable Staticks*, *p.* 62. proves, That at two Feet Depth the Heat is very conſiderable and conſtant; that is, the ſame by Night as by Day, and that by its ſtrong Influence, great Quantities of Moiſture are continually raiſed from the lower *Strata's*, during the warm Summer Seaſon, for the Support of Plants: "The Impulſe of the Sun-Beams giving "the Humidity of the Earth a brisk undulated Motion, which watry "Particles, when ſeparated and rarified by Heat, do aſcend in Form of "Vapour, and vigorouſly enter the Roots of Plants."

THEREFORE (as this Gentleman further obſerves, *p.* 66.) 'tis very reaſonable to believe, That the Roots of Vegetables are thus, by Means of the Sun's genial Heat, continually water'd with new Supplies of Moiſture: For if the Humidity of the Earth did not thus aſcend, the Roots of Vegetables muſt receive all the Nouriſhment which they have from the Earth, merely by imbibing the next adjoining Moiſture contain'd in thoſe Shells of Earth which encloſe their Roots; and if ſo, why then that Earth which is next to their Roots would be always much dryer than that which is farther from it, which is not always ſo: And again, if this was the Caſe, why then Plants that grow in the Earth, and root very ſhallow, would be as ſoon periſh'd for want of Moiſture, as the ſame Plants when they are planted in large Tubs, ſuch as thoſe in which we plant our Orange Trees, whoſe Bottoms preventing the rarified Vapour from penetrating the Roots of the within planted Trees, they do therefore ſoon exhauſt away all the Moiſture contain'd in the Earth of the Tub, and periſh if not ſupplied with more.

AND

AND again, (as this Gentleman further obſerves) if Plants were not thus ſupplied with Moiſture from the lower *Strata's*, how would it be poſſible for them to ſubſiſt in very hot Latitudes, as thoſe within 10 or 15 Degrees of the Equinoctial Line, where they are often without Rain for many Months.

THEREFORE the genial Heat of the Sun being in Conjunction with the Attraction of the capillary Sap-Veſſels, the Moiſture is raiſed, imbibed, and carried up thro' the Bodies and Branches of Plants, and thence paſſing into the Leaves, it is there moſt vigorouſly acted upon in thoſe thin Plates, and put in an undulating Motion by the Sun's Warmth, whereby it is moſt plentifully thrown off, and perſpired thro' their Surface; whence, as ſoon as it is diſentangled, it mounts with great Rapidity into the Air.

NOW, from what is here deliver'd, 'tis plain, That deep and ſtrong-bottom'd Lands, which always abound with great Quantities of Moiſture in their lower *Strata's*, are the only Lands which we are to make Choice of for our Plantations of Fruits: That when hot and dry Seaſons happen, they may be able to ſubſiſt without great Labour and Expence in Watering, which muſt be at thoſe Seaſons when we plant in ſhallow, light, dry-bottom'd Soils, ſuch as Sands, Gravels, *&c.*

CHAP.

CHAP. V.

Of the GROWTH *and* MATURITY *of* PLANTS.

THE first Operation of Nature, after sowing the Seed of a Vegetable, is to imbibe as much Moisture as is necessary for its Germination, whereby it swells with very great Force. This Force Mr. *Hales* has proved in his Experiment on Pease, which he put in an Iron Pot with Water, and, as they dilated themselves, they raised 184 Pounds. *Vide Vegetable Staticks, p.* 94.

NOW seeing that Seed cannot strongly germinate without a sufficient Quantity of Moisture, 'tis no wonder that bad Crops are produced, when sown late in dry Seasons: Therefore the old Maxim of sowing dry, seems to be a Mistake, except in Lands that are naturally very wet.

AND since that Seeds dilate themselves with very great Force at their Germination, *therefore the Soil* wherein they are sow'd should be well meliorated by digging, *&c.* not only for their free Dilatations, but for the more easy Penetration of their tender Plumes, or first leading Shoots into the Air, as well as their Radicles, or first shooting Roots, with their subsequent Fibres, in the Earth. For when the Radicles cannot freely penetrate the Earth, 'tis impossible that they can imbibe sufficient Moisture necessary for the Production of good Plants.

N. B. *IF any desire to be inform'd how Nature operates from the Germination of Seed to the Formation of Buds, Shoots,* &c. *let them read Mr.* Hales's Vegetable Staticks, p. 329, 349, 351.

THE Shoots or Branches of Trees are produced by the gradual Dilatation and Extension of their Buds; for all Branches and Fruits are form'd in the very same Proportion as they afterwards appear when fully grown.

SOME Kinds of Fruits diſcover their Embrio Shoots, and Fruits, within the Bud, viſible to the naked Eye, without the Help of a Microſcope; as the Bud of a Mulberry, ſlit thro' from the Vertex to its Baſe, exhibits the Fruit with its next adjoining Leaves, which Nature has carefully placed, not only to wrap up and preſerve the tender Fruit during the Winter's Cold, to attract Nouriſhment, and perſpire away the Crudities of the Sap, but to expand themſelves in ſuch Manner, ſo as to preſerve the tender Sap-Veſſels of the Fruits, during their Growths, from the drying Winds and ſcorching Rays of the Sun.

THE Growth of Branches are always proportionable to the Nature of the Seaſon in which they are produced. Wet Springs do always produce the longeſt and largeſt Shoots, becauſe their ſoft ductile Parts do then continue longer in a moiſt tender State; but in a dry Spring the Fibres ſoon harden, and ſtop the further Growth of the Shoot, their Sap-Veſſels being dried by their great Perſpiration, cauſed by the extraordinary Heat. The moſt genial Heat for our *Engliſh* Plants is from 17 to 30 Degrees; which Heat generally happens in the Months of *May* and *June*, when Plants in general flouriſh moſt.

A COLD Spring has a worſe Effect on the tender Parts of Shoots, than a cold Autumn; for as the young Shoots of Plants have a greater Proportion or Quantity of Salt and Water in them at their Spring, than in the Autumn, they are more liable to be injur'd by Cold than in the Autumn, when they are in a more advanced Age, and their Quantity of Oil increaſed proportionable to their Degree of Maturity: For the great Work of Nature, in bringing Fruits and Seeds to Maturity, is, to combine together in a due Proportion, the more active and noble Principles of Sulphur and Air, that conſtitute Oil, which, in its moſt refined State, is never found without ſome Degree of Earth and Salt in it. And the more perfect this Maturity is, the more firmly are thoſe Principles united. *Vide Vegetable Staticks, p.* 322.

FROM what has been deliver'd in reſpect to the Growth of Shoots in a dry Spring, it appears, That if weak Trees are then oftentimes refreſhed with Waterings, ſo as to keep their ſoft ductile Parts ſupple, 'twill greatly add to their Growth. And on the contrary, the Growth of luxuriant Trees, for want of ſuch Moiſture, are, by a dry Spring, retarded, and thereby made fruitful.

CHAP. VI.

Of the Manner *of Preparing Lands for* Plantations *of* Fruit-Trees.

THE beſt Seaſon for preparing Lands, wherein we deſign to make Plantations of Fruit-Trees, is *October*, or as ſoon after as the Moiſture of the Ground will admit.

IF your Land is deep, that is, when about two Feet in Depth, 'tis beſt to trench it two Spits, and the Crumb (as term'd by Gardeners) in Depth, laying the Spit that is taken from the Bottom in Ridges, that the Winter Rains and Froſts may mellow it, and exhale away the Crudities thereof. But if your Land is *ſhallow, the beſt* Method is to dig it one *ſingle* Spit only, and that to be laid in Ridges, for the Reaſons aforeſaid, and level'd down in the Spring following.

IF your Land is not over freſh or rich, 'twould be very ſerviceable to mix in the Working a good Coat of Horſe-dung well rotted, ſuch as old Cucumber and Melon Beds, *&c.* but not new Dung on any account, it being perfect Poiſon to the Roots of new-planted Trees.

IN the Trenching of Land, Care ſhould be taken that the Workmen don't leave Cores of undiſturb'd Earth between the bottom Spits of each Trench, as they are apt to do, when they work by the Grate, (nay, when by the Day) and that their Spits are of a moderate Size; for when Lands are digged with large Spits, they cannot meliorate ſo well, as when with moderately ſmall ones, and conſequently are then leſs fit for the free Penetration of thoſe Roots which we deſire ſhould thrive therein.

WHEN by trenching the aforeſaid Depth, a hungry, raw, or ſharp Bottom comes up, 'tis beſt to leave off, and go no deeper than the Goodneſs of the Land will allow. And if at laſt the whole Depth appears to be too ſhallow, that is to ſay, leſs then 18 Inches in Depth, the only Method is to raiſe it with the firſt Spit of a green Sward, or Meadow, which has not been broke up by Spade or Plough within the Knowledge of Man, and where Cattle has continually been fed. But for want of ſuch Virgin Earth, as Mr. *Evelyn* calls it, we muſt make uſe of the very beſt and freſheſt we can get, and therewith make the good Land about two Feet in Depth.

WHEN Lands in general are of very unkind Natures, ſuch as ſharp dry Lands, ſtiff cold Clays, Gravel, *&c.* then we muſt, at proper Diſtances, ſink Holes of ſix or eight Feet Square, and two Feet Depth, if the Land is dry; but if cold, 'tis much the beſt Way to raiſe a Quantity of Earth, of the aforeſaid Dimenſion, upon the Surface of the natural Soil; which Earth ſhould be prepared in a Leſtal, as directed in the firſt Section of the ſecond Part of my *New Principles of Gardening*.

AND ſince that Fruit-Trees (eſpecially Pear-Trees) are apt to ſhoot down Tap-Roots into the lower *Strata's*, where the Moiſture being crude and unprepared, renders their Fruits inſipid, and Growth luxurious; 'tis much the beſt Way, when we plant our Trees, for not only to prune away every Root that ſeems to tend downwards, but to pave the Bottom with Tile-ſheds, Brick-bats, *&c.* alſo to prevent others, which Nature may afterwards produce, from entering therein.

WHEN Lands are prepared fit for the Reception of Seeds, Plants, Trees, *&c.* they ſhould continually be kept mellow, by frequent Diggings, Houghings, Manures, *&c.* or otherwiſe our firſt Labours will be in vain: For ſince that the Moiſture which ſupports the Roots of Plants in dry Seaſons, is, in great Part, attracted up by the kindly Influence of the Sun; 'tis therefore abſolutely neceſſary to keep the Surface mellow, that the Heat may have a free Penetration: And this is not the

the only Reaſon, but by often Dreſſings, as aforeſaid, the Rains (when they happen) have a free Entrance, and conſequently ſtore the Earth with greater Quantities of Moiſture, neceſſary for the Support of Plants, than when the Surface being hard and reſiſts, the Moiſture cannot enter, but is immediately remanded back into the Atmoſphere.

WET boggy Lands are beſt drain'd dry by Trenches dug in proper Places, to convey away the too much Moiſture to ſome proper Place of Reception; and if ſuch Trenches are filled at their Bottoms, about one Foot high, with Pot-ſherds, Pebbles, Brick-bats, *&c.* they will always keep an open free Paſſage for the Water; and in want of them, a Laying of Buſhes, or Faggots of Beech, Alder, Ozier, *&c.* will endure many Years, and anſwer the ſame End.

CHAP.

CHAP. VII.

The Manner *of raiſing* FRUIT-TREES *in a* Nurſery; *their Grafting, Inoculating, and Manner of Tranſplanting againſt Walls, Eſpaliers,* &c.

THE ſeveral Methods of raiſing Fruit-Trees, are from Seeds, Kernels, Layers, Cuttings, Grafting, and Inoculation.

THE ſeveral Kinds of Cherries, Apricots, Figs, Apples, Pears, Peaches, Plumbs, Walnuts, Service, and Mulberries now in being, were without doubt originally raiſed from their Seeds or Kernels; but our uſual Method now to propagate them, is, either by Cuttings, Layers, Grafting, or Inoculation.

THE ſeveral Kinds that may be propagated by Cuttings, are the different Sorts of Grapes and Figs; but 'tis much the beſt way to encreaſe them by Layers.

WHEN we are to encreaſe them by Cuttings, we ſhould juſt before the Fall of the Leaf take off the Cuttings from the Mother-Plants; and having prun'd them to Lengths of about two Feet each, plant them in an Eaſt Border, well prepar'd by digging, *&c.* for their Reception, obſerving to lay them in ſloping, ſo as their loweſt Parts don't exceed a Foot in Depth. They ſhould not be nearer to each other than a Foot at the leaſt, for they are both Plants that require a great deal of Air to perſpire in.

THE Vines muſt be cut at a Bud, but the Figs muſt not be topp'd, and if their Ends are but four or five Inches out of Ground 'tis ſufficient.

IT will be very proper to lay a Coat of good rotten Horſe-dung between the Rows, which will not only keep the Earth warm thro'out the Winter, but moiſt in the Spring, when they are ſtriking Root, and advancing in their Growth.

AND if they are ſuffer'd to remain there for the Space of two Years, before they are planted out, 'twill be much better, than to remove them the firſt Year after planting.

N. B. *IF the Spring after the firſt planting of the Cuttings proves dry, 'twill be very neceſſary to keep them moiſt, by frequent Waterings, which will add very much to ther Growth.*

BUT the beſt Way of raiſing theſe Fruits, is by Layers, becauſe that the Mother-Plants are a conſtant Support, during the whole Time of their ſtriking Root.

THE beſt Seaſon for this Work is *October*, for then they have the whole Winter to imbibe ſufficient Juices, neceſſary for their ſtriking Root early in the Spring.

THE other Kinds of Fruits, *viz.* Cherries, Apricots, Peaches, Pears, Plumbs, *&c.* being propagated by Grafting and Inoculating, we muſt, before we proceed thereto, conſider of the beſt Method of raiſing the beſt Kinds of Stocks for thoſe Uſes.

CHERRIES are commonly budded or grafted on Cherry Stocks, which are raiſed from the Stones of the common Black Cherry.

APPLES are grafted on Crab Stocks, raiſed from the Kernels of the Crab, as alſo on Stocks raiſed from the Kernels of Apples, of which that called the *Paradice*, is the beſt to graft on, to make Trees of a ſmall Growth, and produce Fruits in great plenty very early.

PEARS

PEARS are grafted upon Pear Stocks, raiſed from the Kernels of the wild Hedge-Pear, and on Quince Stocks alſo, raiſed from Cuttings or Layers. Thoſe Pears that are grafted on Pear Stocks, are beſt for light, mellow, warm Soils; and thoſe on Quince Stocks, for wet and cold Lands, ſome few Sorts of Pears excepted, that will thrive better on Quinces then on Pear Stocks: *& contra.*

PEARS may be grafted on a White Thorn, and Cherries on the Laurel, but the Fruit is nothing the better, and practis'd more for Curioſity than Uſe.

APRICOTS and *Plumbs* are both rais'd on Plumb Stocks, the firſt by Inoculation, the latter by Grafting.

PEACHES and *Nectarines* are propagated by Inoculation, either on Peach Stocks, Almond Stocks, Muſcle, White Pear-Plumb, and St. *Julian* Stocks. Thoſe on Peach and Almond Stocks, are beſt for hot light Lands, and the Plumb Stocks for thoſe that are more ſtrong and cold. But there are many Sorts of Peaches that are very difficult to make take on either Peach or Plumb Stock, that will very eaſily on the Apricot; and therefore I recommend to the Curious, That all their Trees, which they intend to be of the beſt Kind of Peaches and Nectarines, be firſt made Apricot Trees by Inoculation, and afterwards budded with the ſeveral Kinds of Peaches that they deſire to have plenty of.

CHERRY-STONES, and Kernels of Crabs and Pears, ſhould be laid thin and well dry'd, when firſt clear'd of their Pulps; and as ſoon as the Moiſture of the Winter will permit, they ſhould be ſown in Beds of well-prepar'd Mould, that is in Nature moderately light and moiſt; being cover'd with fine Mould, about two Inches thick, and a good Coat of rotten Dung over that, to preſerve them from the Winter's Cold, during their Germination.

YOU muſt not forget to ſet a ſufficient Number of Traps for the catching of Mice, which otherwiſe will deſtroy the Kernels, and diſappoint you of your Hopes: And in *March*, when the Froſts are over,

and the Spring coming on, take away the Dung, and give the Surface a gentle Houghing over, that their tender Plumes may eaſily riſe thro' the ſame.

IF the Weather proves dry during the Months of *March*, *April* and *May*, 'twill be very proper to give them moderate Refreſhings of Water, being always kept clean from Weeds, which every one is expected to do, that is a Lover of Gardening.

WHEN the young Seedlings are arrived to the Magnitude of a common Tobacco Pipe in their Stems, they ſhould be tranſplanted out of the Seed-Beds into a Nurſery, planting them at 18 Inches Diſtance from each other, in Lines three Feet aſunder; for then, by having a free Air always circulating about them, they will become Trees much ſooner than when planted very cloſe together, after the common Manner uſed in Nurſeries; where, for want of a free drying circulating Air, they cannot perſpire away the Crudities of their Sap, and conſequently cannot thrive.

WHEN the Stocks of our young Plantation are arrived to about half an Inch Diameter in their Stems, they are fit for Grafting and Inoculation. The firſt Operation being to be perform'd in *February* and *March*, and the other in *June* and *July*.

THE whole Care of theſe Works, is, to take Cuttings of ſuch Fruits as we would propagate, from Branches that are in a healthy and fruitful State, and not from ſuch as are luxurious, which will not produce any Fruit under a very long time; and thoſe of one Year's Growth are the beſt.

'TIS abſolutely neceſſary to take off Cuttings for Grafting a full Month before they are grafted, that, being ſomething check'd, they may greedily imbibe the Juices of the Stocks as ſoon as grafted, and thereby confirm their Unions inſtantly, which Grafts that are cut from a Tree at the Inſtant of Grafting cannot do, becauſe then they are as replete with Moiſture as the Stock; and therefore inſtead of ſtrongly attracting its Juices, inſtantly periſh.

BUT tho' I adviſe the taking of Cuttings from Trees one Month before the Time of Grafting, yet it muſt not be underſtood that they are to lie out of the Earth all that Time, but muſt be laid with their great Ends, about three or four Inches in Length, in the Earth, well cloſed about them, under a North Wall, until you immediately uſe them at the Time of Grafting

CHERRIES and *Plumbs* are the firſt Fruits we begin our grafting with, which is generally about the Middle of *February*; Pears about the Beginning; and Apples the Middle or End of *March*, when the Sap is a little rarified by the Heat of the Spring; that is, as ſoon as the Bark will riſe freely from the Wood.

THERE are ſeveral Ways of Grafting Fruit-Trees; ſome being proper for Stocks that are ſmall; others for thoſe that are moderately large; and laſtly, others for Trees that are very largely grown.

THE ſeveral Methods of Grafting may be reduc'd to three, *viz.* 1ſt, *Whip* or *Splice Grafting*, proper for Stocks of the ſmalleſt Size; 2dly, *Stock Grafting*, proper for Stocks of a middle Size; and laſtly, *Rind Grafting*, proper for Trees that are largely grown.

THE neceſſary Inſtruments for theſe Works, are, a very good Knife that cuts very ſmooth and clean for cutting the Cions; a good ſtrong Pruning-Knife for to head the Stocks with; a Saw to cut off ſuch Branches as are too large for the Knife; a Grafting-Chizel for opening the Clefts in Stocks, whilſt the Cions are placed: A good Quantity of ſound Baſs-Matting, with well-prepar'd Loam, well mix'd with ſhort Horſe-dung; and Wood-aſhes, to work in their Hands when the Loam is a little too moiſt or clammy.

BEING thus prepar'd, every thing is in readineſs for Work; but 'tis much the better Way to have a Boy or Man to loam after you, than to loam your ſelf.

TREES that are intended for Standards, muſt be headed at about five Feet high; half Standards at three Feet; and Wall-Trees at ſix or eight Inches above Ground.

THE Manner of Splice-Grafting (called Whip-Grafting) is perform'd by making an oblique Section, or ſloping Cut like a Pen, in the Cion, (as the Section *c*, *Fig.* I. *Plate* I.) with a Slit upwards from near the Bottom; then having cut a ſmall Part out of the Top of the Stock, fit for the Reception of the Cion, as the inward Section *d*, *Fig.* IV. with a downright Slit therein, as *d*; place thereon the Cion *a b*, ſo as the Slit of the Cion, being in the Slit of the Stock, the lower Part of the Cion *y*, *Fig.* III. may be exactly ſmooth with the lower Part of the Cut in the Stock at *t*, *Fig.* IV. And if it happens that the Breadth of the Stock is greater than the Breadth of the Cion, be ſure that you place the Cion to one Side of the Stock, ſo as for their Barks to lie exactly ſmooth and even with each other; for then their Sap-Veſſels being plac'd directly over each other, they can the eaſier unite together. If, when you have plac'd your Cion in the Stock, they do not ſit cloſe together, you muſt, with Baſs-Mat, bind them cloſe, ſo that the Wet or Air cannot get in between, and diſunite their Union. You muſt alſo be careful to ſee them well loamed; that the *Loam is* well cloſed at the Tops and Bottoms; that it is not put on too wet, which will cauſe it to fall immediately, and that 'tis well work'd in all its Parts, ſo as to have no Cracks therein.

WHEN you head down a Stock for Grafting, you muſt be careful to cut it off at a Place where the Bark is perfectly ſmooth, and free from Cankers, Moſs, *&c.*

'TIS abſolutely neceſſary that you cut your Cuttings or Cion againſt a Bud, as at *b*, *Fig.* I. and that you have at leaſt two others above it, for 'tis by the attractive Power of the Buds, that the Cions draw Nouriſhment and grow.

AND

AND 'tis alſo highly neceſſary that juſt under the Graft, as at *f*, a Bud be left, to attract Nouriſhment for the Support of the Graft, and perſpire away the Crudities thereof.

IN *May*, when the Cions are united, and have produced Shoots, you muſt releaſe them of their Bandage, (the Baſs with which you bound them) or otherwiſe they cannot dilate themſelves with Freedom, and conſequently will not thrive ſo well. You muſt alſo at this time diſcharge the Stocks of all their lateral Branches, which before were ſuffer'd to grow, to draw up the Nouriſhment as aforeſaid.

STOCK Grafting, or Grafting in the Cleft, moſtly uſed for Apples, is perform'd as follows:

FIRST, having determin'd your Place to graft at, ſet your right Foot againſt the Stock, and with your Pruning-Knife cut it off floping, (as *v t*, *Fig.* II. *Plate* I.); then placing your Foot at *h*, againſt the Stock to keep it ſtedfaſt, ſmooth down the Head of the Stock horizontally, as the Line *l k*, ſo will the Head of your Stock become level, as *i Fig.* III. This being done, apply the Edge of your Pruning-Knife downwards, from the Top of the Stock at *i* towards *h*, and with a Mallet, make the Cleft *i h*, and ſo is the Stock ready to receive the Cion *q n*, *Fig.* V.

BUT this Work of heading down the Stocks, ſmoothing, and cleaving them, ſhould be done by another Hand, that you may have nothing to do but cut the Cions and fix them in the Stocks; which perform as follows:

THE Stocks being cleft, you muſt therefore cut the Cion in the Form of a Wedge, as *n m Fig.* V. which muſt always be cut from a Bud, as at *m*, for the Reaſons aforeſaid; and then with a Grafting-Chizel open the Slit, and place the Cion therein, ſo as that their Barks may be exactly even and ſmooth.

BUT

BUT if the Bottom of the Cut, Part of the Cion *d*, were cut obliquely, as at *o Fig.* VI. they would be eaſier and better placed; and then being loamed, as aforeſaid, the Work is done.

WHEN Stocks are very large, ſo as not to be cleft, they muſt be grafted in the Rind, an old and common Way, well known to moſt Countrymen, and therefore ſhall omit that Deſcription.

BESIDES all theſe ſeveral Ways of Grafting, there are many others that are practis'd in *Hertford* and *Devonſhire*, by the Propagators of Cyder Fruits, which are not worth the Notice of the Curious, and therefore left out.

THE Manner of In-arching, or Grafting by Approach, being chiefly uſed on Orange-Trees, I ſhall therefore omit that, ſince the Culture of ſuch Exoticks are intended for another Work.

INOCULATION or Budding (and indeed Grafting alſo) is much ſooner learned, and better underſtood, by ſeeing the Operations perform'd by a skilful Nurſeryman, than by Ten thouſand Words; and therefore to offer any Diagrams of *that Kind* would be needleſs.

BUT however it mayn't be amiſs if I ſhould ſpeak a Word or two in relation to the proper Seaſons, Choice of Cuttings, *&c.*

THE Seaſon for inoculating Fruit-Trees, is, from the middle of *June* to about the middle of *July*, whilſt the Bark riſes freely from the Wood; and if the Weather is cloudy and wet, 'tis ſo much the better, becauſe, that whilſt the Operations are performing, the Sap, both of the Bud and Stock, are not prejudic'd by Heat: And therefore if the Seaſon happens to be dry, the only Times of the Day for this Work, is, very early in a Morning, and late in an Evening, juſt before the Sun is below the Horizon.

'TIS as neceſſary to be curious in the Choice of Cuttings from fruitful Branches for Inoculation, as was before ſaid for Grafting; but

theſe

theſe for Inoculation ſhould be uſed as ſoon as they are taken from the Tree, or otherwiſe put in Water, and kept freſh till uſed.

ONE Bud in a Stock is enough to form a good Tree; but 'tis much the better Way to put two Buds in each Stock, leſt one only ſhould fail.

IN the Choice of Cuttings, particular Care ſhould be had to their Buds, *viz.* That they are not Bloſſom-Buds, which are known by being double, and never produce Shoots, as we deſire when we inoculate. And likewiſe that they are not Shoots that always liv'd in the Shade, whoſe Buds are immature for want of Perſpiration: but ſuch that are ſtrong, not luxurious, that always poſſeſſed a free circulating Air, and of the ſame Year's Growth.

WHEN three Weeks or a Month is paſt, after Inoculation, you ſhould releaſe them of their Bandage, that the Stock may have a free Dilatation: And if your Buds have taken, they will appear very plump and of their natural Colours, as when firſt put in. If that Part of the Leaf which is left to the Eye of the Bud drop off freely, 'tis a good Sign that they are united; but if it withers and ſticks firm thereto, 'tis a certain Sign that the Bud is dying or dead.

IN *February*, after Inoculation, you muſt ſurvey your Stocks, and thoſe that have their Buds perfect muſt be headed off, about three Inches above them, that in *March* the whole Nouriſhment of the Stock may be fully applied to the Growth of the Bud, which the firſt Year will be very conſiderable, and eſpecially if all the lateral Shoots of the Stock are diſplac'd when they appear.

THE Maſculine, Orange, and *Roman* Apricots, are the firſt Fruits that ſhould be inoculated; and after them, Cherries, Peaches, Plumbs, Pears, *&c.* And it often happens, that if you take the Advantage of the Beginning of the Seaſon, you may, before the Seaſon is gone, Re-inoculate ſuch that have miſſed at your firſt Inoculation.

PEACH Stocks are generally large enough to graft the firſt Year after their Kernels are ſet; but Cherry Stocks, Plumb Stocks, *&c.* not till the third Year, and ſometimes not till the fourth.

THE next Spring after the Buds have made their Shoots, thoſe Parts of the Stocks which were left above the Buds, ſhould be cut away cloſe to the Bud, and cover'd with a Salve made of Mutton-ſuet, Bees-wax, and Roſin, as I ſhall direct in my Chapter on Pruning the Branches of Fruit-Trees, to preſerve the Stock from the Injuries of Wet, which is oftentimes deſtructive to them.

CHAP. VIII.

Of ASPECTS *and their* ACCIDENTS.

IT is very unreaſonable to expect that two South, or Eaſt, *&c.* Walls, in the ſame Latitude, planted with the ſame Fruits, of the ſame Age and Goodneſs, ſhould produce Fruits equally as good and early, when the Soil of the one is a moderate, light, warm Loam, and the other a ſtrong, cold Brick-Earth, or Clay.

THESE different Natures and Qualities in Soils are ſeldom conſider'd, and therefore when good Kinds of Fruits are planted in bad Soils, or in Soils whoſe Principles are diſproportion'd to thoſe of the Fruits, they are either ſaid to be bad Kinds, (tho' naturally very good) or elſe the Judgment of the Gardener is condemned, notwithſtanding that he may happen to be one of the beſt Sort, as Gardeners are now a-Days.

AND when it falls out that a bad Soil and a bad Gardener happen to meet together, which is the very Caſe of ten Gardens to one thro'out *England*, then the Production muſt conſequently be very bad.

I HAVE known ſome Eaſt, and even North-Eaſt Walls, whoſe Soils have been very kind, produce better and earlier Peaches and Cherries, than ſome South and South-Eaſt Walls, whoſe Soils have been very wet and cold: Therefore when People have good Aſpects and bad Soils, 'tis impoſſible they can have any good Fruits: Hence it appears, that to have good Fruits, we muſt firſt conſult our Soil, and if, upon Examination, it appears to be incapable of the Productions we expect, why then our only Buſineſs is to help Nature in the beſt Manner that our Place and Conveniency will permit.

THUS much for the different Natures of Soils; now I will proceed to ſpeak ſomething in relation to Aſpects in general.

SINCE that Mr. *Hales* in his *Vegetable Staticks*, *p.* 127. has ſhewn the Probability of Rains and Dews being imbibed by Vegetables at their Leaves, in which are many crude Particles, which, when confin'd, or in two great a Quantity, are injurious to the Growth of Trees; we muſt therefore conſider of ſuch Aſpects, that will admit the Sun's Influence to diſſipate them before they become prejudicial.

THESE Crudities are firſt diſſipated from the Eaſt and South-Eaſt Walls, which laſt declining about 20 Degrees, is the very beſt Aſpect for moſt Kinds of Fruits: Next to this is the South and South-Weſt; and laſt of all the Weſt. And as the South-Weſt and Weſt Aſpects retain the Crudities of the Dew longer in the Day (which oftentimes chills the Fruits) than the South-Eaſt and South, ſo are their Fruits of a lower Flavour, and later ripe.

THE Weſt Aſpect receives the Sun when 'tis paſt the Meridian, *viz.* about one o'Clock, (tho' very obliquely) which being late in the Day, thoſe Crudities do therefore remain a long while before they are diſperſed; and 'tis therefore that the Fruits of a Weſt Aſpect are eight or ten Days later in ripening, than thoſe of the South-Eaſt and South.

DIRECT Eaſt Walls have the Crudities of the Dew ſoon diſſipated; but then they have but little of the Sun, for at eleven the Rays become very oblique, and the Heat very little, and ſoon after none at all.

BUT a direct Eaſt Wall is far preferable to a direct Weſt Wall, becauſe the Heat of the Day comes gradually on it, and leaves it in its Meridian of Heat; but a Weſt Wall is only favour'd in the Violence of the Heat, by the Obliquity of the Sun's Rays, as they firſt fall thereon, which cauſe the Heat to be much more gradual, than if they were to fall direct at their firſt Onſet.

WHEN ſudden Heat comes on Fruits, it ſhrinks their Sap-Veſſels, and conſequently they cannot imbibe and receive ſo great a Quantity of Nouriſhment. This is the Caſe of direct Weſt Walls; and 'tis therefore that their Fruits are leſſer in Magnitude than thoſe of the South and South-Eaſt, which receive their Heat by Degrees.

'TIS obſervable that in *England* the hotteſt Part of the Day in the Summer Seaſon, is about two or three in the Afternoon, when the Heat is oftentimes ſo very great, as to exhale away more Moiſture than is neceſſary; and conſequently at all ſuch Times the Goodneſs of Fruits is greatly diminiſh'd; therefore when we have it in our Power to make our own Choice, we ſhould chuſe ſuch an Aſpect, whoſe Situation is ſuch, that at that very hot Part of the Day, it ſhould be diſcharged of that violent Heat.

NOW ſeeing that the hot Part of the Day generally happens when the Sun is nearly South-Weſt, it therefore follows, that at that time a South-Eaſt Wall, declining 20 Degrees, is nearly ſhaded; for as the Rays are then very oblique, they have not ſo great a Power on the Sap-Veſſels, as to exhauſt away a more than ordinary Quantity of Moiſture: And from hence it is, that a South-Eaſt Aſpect, declining about 20 Degrees, is the very beſt of all others.

THIS being judiciouſly conſider'd, 'tis very eaſy to account for the Reaſons of a South-Eaſt being better than a direct South Aſpect: For when the South-Eaſt Aſpect is diſcharged from the extreme Heat of the Day, the direct South Aſpect is ſtill expoſed to it, whereby its Fruits are oftentimes injur'd, by having their Sap-Veſſels dried by the extraordinary Heat thereof.

NORTH Aſpects, in warm Summers, will produce good Plumbs, and Duke Cherries, when thoſe of the Eaſt, South, and Weſt Walls are gone, and Morello Cherries alſo.

NORTH-Weſt and South-Weſt Walls are obſerv'd to produce good Apricots; and, if I may be allow'd to ſpeak my Opinion, much better than a South Wall, (tho' not ſo early) becauſe that the extraordinary

Heat of a South Wall cauſes them to be mellow and meally as ſoon as ripe, which they are found not to be when planted againſt Aſpects of leſſer Heat.

SOUTH Aſpects are only liable to too much Heat in the latter Part of the Day, as before obſerv'd.

EASTERN Aſpects are only liable to the drying cold Eaſterly Winds, which being of a very dry exhaling Nature, do oftentimes exhauſt too great a Quantity of Moiſture from the Bloſſoms of Fruits, whereby they periſh.

THE Weſt Walls being fully defended from the exhaling Nature of theſe Winds, are therefore more fruitful; but they are fully expoſed to the Weſtern Winds that blow in the Autumn, which are rather more prejudicial to Standard than Wall Trees.

CHAP.

CHAP. IX.

Of the Manner *of Planting* FOREST-TREES, *to defend* Plantations *of* Fruits *from the Injuries of North, Eaſt, and Weſt Winds.*

THE moſt proper Kinds of Trees for this Purpoſe, are the Lime-Tree, the *Engliſh* and *Dutch* Elms, Horſe-Cheſnuts, Abeles, Poplars, *&c.*

THE firſt Work to be done, is to prepare the Soil fit to plant in; and if it happens to be naturally a good freſh deep Loam, then a common Trenching is ſufficient, being perform'd as early in the Winter as the Seaſon will permit, which is alſo the beſt Time to plant in.

BUT if your Land is poor, then you muſt help it with freſh Earth, Compoſt, *&c.* and if perfectly barren, then you muſt ſink Holes of ten Feet Diameter, and two Feet Depth, taking away the barren Earth, and make good again with freſh untried Earth, Compoſt, *&c.* as recommended in the firſt Chapter hereof.

SOMETIMES it happens that the firſt Spit is very good, and the next good for nothing, which is much better than when the whole is bad, becauſe then the leſſer Addition of freſh Earth, *&c.* will ſuffice.

BEFORE you plant your Trees, place the Turf at the Bottom of the Hole, being chopp'd very ſmall; then raiſing a ſmall Hill of fine freſh Earth where the Tree is to be plac'd, bed the Roots therein, and carefully fill in and cloſe them well about all their Parts, that there be no

hollow Places left, where the Earth cannot close about their Roots, which oftentimes is the Death of many fine Trees.

THE Method of Planting Trees in Pap, much practis'd by that great Encourager of Planting and Gardening, the Honourable *James Johnson* of *Twickenham*, is a very sure Way for the well mixing of Earth about every small Fibre, whereby the Roots are enabled to imbibe Moisture with great Force.

WHEN Lands are wet and cold, plant shallow, and in the Spring; but if hot and dry, or moderately moist, a moderate Depth, and as soon in the Winter as the Moisture of the Season will permit.

THE Distance that these Plantations of Defence should be from the Walls or Bounds of your Fruit Plantation, should be about 50 or 60 Feet, or more if your Land will permit.

THEIR Distances in the Rows may be 10, 12, 15, 20, *&c.* Feet, for as I have already proved that the closer together Trees are planted, the more they aspire in Height, *&c.* therefore the nearer they are planted, the sooner they will become useful.

BUT it will be convenient that between every Row there be left a sufficient Distance, that their lower Branches may enjoy a free drying Air, or otherwise they will become saturate with Sap, for want of free Perspiration, and thereby perish. Forty or fifty Feet between each Line is sufficient for *English* Elms, Lime Trees, Horse Chesnuts, *&c.* but for Abele, Poplars, Withy, *&c.* 60 or 70 Feet, which last should never be planted but in very wet and cold Land, where the others will not thrive.

IF by the Situation of Hills, Clefts, *&c.* any Part of your Garden is more than ordinary expos'd to violent Winds, the best Way to guard against them, is to plant Clumps or Platoons of such Forest-Trees that are most natural to the Soil, at proper Distances, so as to destroy the Violence thereof before it reaches our Fruit-Garden.

THE

THE Advice given by the Author of the *Retir'd Gardener*, for Pruning off the lateral Branches of the Heads of Foreſt-Trees, at their Time of Planting, to Pyramidical Shapes, is entirely wrong; for thoſe Arms ſo cut off, are ever after as ſo many Conduits or Pipes, imbibing or conveying Rains into the Trunks, which very often cauſe their Death.

AND (as he very juſtly obſerves) 'tis alſo very prejudicial to Head thoſe Trees; therefore if we hope for Succeſs in theſe Plantations, preſerve the Roots in as great a Quantity as poſſible, mix and cloſe the Earth well about them; cut cloſe all Side Branches, and carefully preſerve their Heads.

WHEN your Trees are planted, be careful of ſecuring them with Stakes, from the Inſults of Wind and Cattle, and cover the Surface of the Ground three or four Inches thick, for about two or three Feet about their Stems, with long Horſe-dung, Fern, *&c.* to preſerve their Roots from the Injuries of Cold in the Winter, and Heat in the Summer: And if theſe Coverings were cover'd with Earth about three or four Inches thick, 'twould add very much to the Preſervation of the Trees.

THE making of Baſons about the Stem of every new-planted Tree, being natural to every Gardener, I need ſay nothing thereof; but if the *March* and *April*, after planting, ſhould be very dry, I muſt recommend to his Care, that they be well water'd, at leaſt once a Week, to ſupply the Expence of Perſpiration, at that time when their tender Fibres are ſeeking out for proper Nouriſhment.

O CHAP.

CHAP. X.

Of the Velocity *wherewith* Nouriſhment *enters the Roots of* Fruit-Trees; *and the* Reaſons *and* Manner *of Pruning their* Roots *and* Heads *at the Time of Tranſplanting.*

THE Reaſon that Gardeners give for reducing the Heads of Trees at the Time of Planting, is very juſt; for they ſay, if they are not reduced, their Roots cannot ſupport them, becauſe that in taking them up many are cut and broke off, and thereby, being leſs in Quantity, are leſs able to imbibe Nouriſhment for their Support, and conſequently ſhould be proportionably reduc'd.

OF this likewiſe all our famous Authors on Gardening, from the Time of *Adam* to this preſent Moment, take Notice, and ſay, that for the aforeſaid Reaſon, the Heads of Trees muſt be reduced at their Planting; but not one of them as yet has ever attempted to lay down a reaſonable Rule for the Performance thereof, or can any do more than ſay it muſt be ſo. But ſince Demonſtration is undeniable and ſelf-evident, I ſhall here communicate two Experiments which I made this Summer, that will demonſtrate the Truth thereof, and lead the Curious in Planting into a reaſonable and demonſtrable Method of Pruning.

EXPERIMENT I.

I MADE Choice of a *Roman* Nectarine Tree, that was in a thriving State, whoſe Leaves were nearly equal, which I number'd, and found

them to be 612: Then on a Piece of Paper I drew parallel Lines, at $\frac{1}{4}$ of an Inch Diſtance from each other, as the Lines *a a, &c. Fig.* VII. *Plate* I. and alſo others at the ſame parallel Diſtance, at Right Angles to the former, as *b b, &c.* conſtituting little Geometrical Squares, each containing $\frac{1}{16}$ Part of an Inch.

THIS being done, I laid one of the Leaves thereon, and with a Black Lead Pencil traced about the Edges of the Leaf, and then numbering the little Squares within that traced Line, I found their Number to be 116, which being divided by 16, gives ſquare Inches $7\frac{1}{4}$.

16)116(7 $\frac{1}{4}$
112

4 remains, equal to $\frac{4}{16}$, or $\frac{1}{4}$.

N. B. *WHEN the Leaves of a Plant are of different Magnitudes, which generally happens, they muſt be ſeparated into as many different Parcels; and then meaſuring the Surface of one in each Parcel, and knowing the Number of Leaves therein, may proceed as follows:*

THE Number of Leaves on the Tree 612, being multiplied by $14\frac{1}{2}$, the double Content of the Leaf's Surface, (becauſe their Perſpiration is perform'd as well by the under, as the upper Part of the Leaf) and the Product will be the Area of all the Leaves.

612
$14\frac{1}{2}$
2448
612
306
8874 ſquare Inches, the Area of the Leaves.

HAVING thus obtain'd the Surface of the Leaves, whereat their Moiſture is perſpired away, I then proceeded to find the Surface of their Roots, where they imbibed and received it. For whatever Analogy the

Surface

Surface of the Roots of every Plant naturally bears to the Surface of their Leaves, ſo are their imbibing and perſpiring Powers proportionable; and according to thoſe Proportions muſt the Heads of Plants be reduc'd, when tranſplanted.

I DUG up the Nectarine Tree carefully, and preſerv'd all its Roots, (the very Fibres excepted): It had five main Roots, extending themſelves nearly horizontally, about three or four Feet from the Stem, with many lateral Roots of different Lengths: The Girts of each of the main Roots, at the Body of the Tree, were three Inches, and the Length of each being three Feet; therefore multiplying 36 Inches, which is equal to three Feet, by 1 $\frac{1}{2}$, the half Girt at the Stem, it being conical, the Product will be the Surface of one main Root.

36
1 $\frac{1}{2}$

Product - - - 54 ſquare Inches,
Which multiply again by 5 the Number of main Roots;

Product - - - 270 ſquare Inches, the Surface of five main Roots. Each main Root had (one with the other) 430 lateral Roots, whoſe mean Girt, at the main Root, was half an Inch, (the large ones next the *Stem* or *Body of the Tree* being a full Inch, and thoſe at the extreme Part of the main Roots, $\frac{1}{4}$ of an Inch, whoſe half is half an Inch, the mean Girt thro'out). The Length of the largeſt and longeſt of theſe lateral Roots was each about nine Inches; and of the ſmalleſt and ſhorteſt, about three Inches; therefore their mean Length is ſix Inches. Now 430, the Number of lateral Roots on one main Root, being multiplied by 6 Inches, their mean Length, the Product will be their whole Length taken together.

430
6

Product 2580 the whole Length of all the lateral Root, belonging to one main Root:

NOW as their Length is found to contain 2580 Inches, and their mean Girt half an Inch, therefore multiply 2580, by o $\frac{1}{4}$, and the Product will be the Area of their Surfaces.

2580 : o
o : $\frac{1}{4}$

Product 645 ſquare Inches, the Area required.

AND as each of the other main Roots had the ſame Quantity of ſmall Roots, therefore multiply 645, by 5, and the Product will be the whole Area of the lateral Roots.

645
5

Product 3225 ſquare Inches, the whole Area of the lateral Roots.

TO this add the Area of the five main Roots, and their Sum will be the Area of the whole Root required.

The Area of the five main Roots	270
The Area of the lateral Roots	3225
Sum - - - -	3495 ſquare Inches.

So that now the Area of the whole Plant, is in its Leaves 8874
And Roots - - - - - - 3495

IF we divide the Area of the Leaves, by the Area of the Roots, the Quotient will diſcover their Analogy to each other.

3495)8874(2 $\frac{1884}{3495}$
6990

1884 remains, equal to $\frac{1884}{3495}$, which being reduc'd to its loweſt Denomination $\frac{628}{1165}$, is ſomething more than $\frac{1}{2}$.

NOW since that the Surfaces of the Roots, whereat the Nourishment is imbibed, are full $\frac{3}{5}$ less than the Surfaces of the Leaves, where the Perspiration is performed; it therefore follows, that the Velocity with which Moisture enters the Roots, must be $\frac{3}{5}$ greater than that of Perspiration.

HENCE it is that the Roots of Plants, whose upper Parts are of great Growths, should be preserv'd in as great an Abundance as possible; and we are hereby taught the Reason of reducing the Heads of Plants at the Time of Planting.

FOR since that the Head of this Tree in its natural Growth, when its Roots were all perfect and fix'd in the Earth, did then make such a Demand of Moisture for its common Support, that caused the Velocity in the Roots to be $\frac{3}{5}$ greater than in the Leaves; we may from thence conclude, That the reducing its Head at the Time of Planting was absolutely necessary.

IN this very Point of Planting many People are much out, because that reducing the Heads of Trees at first Planting, causes them to have a lesser Appearance *than they desire, and therefore* will not suffer them to be reduced proportionable to their Roots; so that they either remain in a decaying languishing State, or instantly die; for their Roots being much reduced by removing, they cannot imbibe Moisture sufficient for the Support of their Heads, which are then in too great a Quantity. Therefore 'tis always to be remembred, at the Time of Pruning and Planting, that the greater Proportion the Area of the Roots bears to that of their Leaves, so much the more they will be enabled to imbibe Nourishment for the Support of the Plant, which consequently will thereby be more vigorous in its Growth, and better able to endure dry Seasons, *&c.*

NOW, in Consideration that this Experiment has proved, that the Sap, which is the Life of Vegetables, (as Blood is of Animals) must pass much swifter thro' the Surface of the Roots than Leaves, it therefore follows, that 'tis very reasonable, when Trees of any Kind are taken out of Nurseries, *&c.* for transplanting, their Roots should be preserv'd in as great a Quantity as is possible, that Nature may have the greatest

Liberty of imbibing Moiſture ſufficient for the Support of the then reduced Plant. The Conſideration hereof I recommend to the ſerious Conſideration of my *Brother-Gardeners*, and indeed to all others concerned in the Planting of Fruit and Foreſt-Trees, which are very often loſt for want of Judgment herein.

THE great Want of this Diſcovery has cauſed the Death of many Thouſand valuable Plants, that have died by being unskilfully pruned at their Time of Planting. For Gardeners have but one Rule or Method for pruning the Roots of all Kinds of Plants, and even that they can give no manner of Reaſon for: For was any one of them to be ask'd ſuch a Queſtion, their Anſwer would be, "Why I know it to be ſo, my "Father or Maſter did always uſe to prune in this Manner, and their "Trees ſeldom died, and I my ſelf have practis'd the ſame, as taught by "them, with good Succeſs; I know it by Experience, which is the beſt "Maſter:" And ſo on, without conſidering the great Demand of Nouriſhment that Nature makes in one Kind of Vegetable more than another, according to their different Growths, which cauſe as great a Difference in the Manner of pruning their Roots.

AS for Example:

IT is obſerv'd, that the Cabbage (which is a Vegetable of a quick Growth above Ground) draws its Sap with a very great Force, (its Roots being naturally but few, when compar'd with Vegetables, whoſe Roots are much more, as *Dutch* Box, and Growth much ſlower): So that from hence it appears, That Plants of a quick Growth and ſtrong imbibing Nature, ſhould have as much Root allow'd them, at Planting, as poſſible.

EXPERIMENT II.

I MADE a ſecond Experiment in the like manner on a *Batterſea* Cabbage, that was about half grown, and found that the Surface of its Leaves exceeded the Surface of the Roots near twelve times; ſo that the Roots did imbibe Moiſture with near twelve times the Velocity that the Leaves perſpir'd it away. And were that Cabbage-Plant to have been planted again, the Leaves of the Head muſt have been proportionably reduc'd,

as

as 12 is to 1, or rather as 15 to 1, becauſe that there is a continual Demand of Nouriſhment by the Head, during all the Time that Nature is preparing its new Fibrous Roots, to ſtrike freſh again into the Earth.

WE may obſerve from this Experiment of the Cabbage, that as their Growth is naturally very quick and great, and Roots ſmall in Proportion to their Heads, (whereby their Nouriſhment is imbibed with great Velocity) the Soil wherein they are planted ſhould be very rich and full of Moiſture; for otherwiſe their very great imbibing Force would ſoon exhauſt it dry, and thereby periſh. And 'tis always ſeen, that where-ever Cabbages, Colliflowers, Savoys, *&c.* are planted, they impoveriſh the Ground very much, altho' perhaps 'twas in good Heart at their firſt planting; and the like of all other Plants in Proportion to their more or leſs Quantity of Roots.

WE ſhould alſo obſerve the various Diſtributions of the Roots of Plants; for thereby we are in part directed how to adapt them to their proper Soils: Thus Nature informs us, that the Flax, Arbutus, *Engliſh* Oak, and many other Plants that naturally produce Downright or Tap-Roots, delight in very deep-holding Lands; and others, as the Aſh, Elm, Lime, *&c.* whoſe Roots run nearly horizontally within two and three Feet Depth, *love Land that is rich* and ſhallow.

THE different Velocities of imbibing and perſpiring Nouriſhment being accounted for, 'tis very eaſy to conceive the Reaſons of pruning the Heads of Fruit-Trees at the Time of Planting, and that the more they are reduc'd, the better it is for them.

AND, as it has been obſerv'd before that Plants perſpire whilſt they are ſtriking Root, 'tis therefore that Moiſture is abſolutely neceſſary at Planting, to ſupport them until they are enabled to attract Nouriſhment themſelves; which Moiſture ought to be no more than is agreeable to the Nature of the Plants; for I have ſeen many Trees kill'd (and particularly Ever-greens) by having too great a Quantity of Moiſture; therefore in wet and cold Lands beware of deep Planting.

THE Seaſons for Planting Fruit-Trees, are, *October* and *February*; the firſt in Lands that are moderately light and warm, the laſt in Lands that are cold and wet.

TREES planted in light warm Soils, in *October*, or ſooner if the Seaſon permits, will ſtrike Root before the Winter comes on, and vigorouſly ſhoot in the Spring: But if Trees are planted at that Seaſon in very wet and cold Lands, the too much Moiſture will rot their Roots, or at leaſt chill them ſo very much that they very ſeldom recover it.

ALL new planted Trees, of both Seaſons of Planting, ſhould be kept water'd in *March* and *April*, when thoſe Months prove dry, or otherwiſe they ſeldom make good Shoots the firſt Year. 'Tis abſolutely neceſſary to cover the Surface of the Earth, at leaſt one Foot about the Stems of the Trees, with well rotted Horſe-dung, plac'd in the Form of a Cup, the better to receive the Water when any is given; which Dung not only preſerves the Moiſture from being ſuddenly exhaled away, but communicates a Nouriſhment at watering alſo.

WHEN you plant Wall Trees, place their Roots about nine Inches or a Foot from the Wall, with their Heads within an Inch thereof: For when their Roots are planted cloſe to the Wall, as is commonly done by the Ignorant, their Bodies burſt out from the ſame as they increaſe in Magnitude, and thereby cannot be kept in a handſome cloſe Order.

THE Heads of Wall-Trees at Planting ſhould be reduc'd to the firſt four Side Buds, above the Graft or Place of Inoculation, becauſe that from four Shoots we may form a good Tree.

ALL forward Buds ſhould be diſplaced as ſoon as they begin to ſhoot, that thoſe which lie parallel to the Wall, may receive the full Benefit of the Nouriſhment.

IF the firſt Shoots appear to be very ſtrong and luxurious, when they have form'd four Buds, nip off their Ends, which will oblige Nature to force out a Branch at every Bud, and ſo by diſtributing the Sap of each Branch in four ſmall ones, they will become fruitful, and not luxu-

rious, as they would have been, had the Sap been wholly imployed in one Shoot only.

BEHIND the Place of Inoculation, or of Grafting in every Wall Tree, there is a ſmall Part of the Stock which is generally dead, which at Planting muſt be cut cloſe to the Shoot, and placed next to the Wall: For when they are placeed outwards, as ſometimes is done by unskilful Planters, they imbibe Wet, which oftentimes rots the Body of the Stock in a ſhort Time.

'TIS abſolutely neceſſary and very advantageous to cover the Wounds of Trees, when cut, with a Salve that will preſerve them from the Injuries of Wet and Cold. The Compoſition is as follows; Take half a Pound of Roſin, a quarter of a Pound of Bees-wax, the ſame Quantity of Pitch, and two Ounces of Mutton-ſuet; melt them together, and when moderately cool'd, ſo as to be liquid, dreſs the Wounds with a Feather, Bruſh, *&c.* and no Wet or Cold can penetrate or injure them.

ALL Wall Trees that are budded or grafted very low, ſhould have their Grafts, when planted, about two or three Inches above Ground; but do not on this Account plant their Roots over deep, for the Reaſons before deliver'd.

'TIS a Practice among Gardeners, to plant Peach-Trees in *October*, with their whole Heads on, and let them remain ſo until the *February* or *March* following, and then head them down, which is doing the Trees a great Prejudice; for the Roots do not only imbibe a more than ordinary Quantity of Crudities thro'out the Winter, occaſion'd by the attractive Force of the Head, but in the Spring when the Gardeners head them down, the Tree is diſturb'd in its Roots, which are then preparing to, or are penetrating the Earth, and thereby oftentimes deſtroy'd.

I NEED not ſay any Thing more on the Roots of Fruit-Trees, ſince I have already prov'd, that the more Roots a Tree hath, the more able it is to imbibe Nouriſhment: Therefore the whole Care in the Management of Roots, is, that they are bruiſed and diminiſh'd as little as poſſible in taking up, that the Number of ſmall Fibres be thinn'd diſcretionally, ſo as to let the Earth freely about all their Parts; that all

Bruiſes be cut entirely away with a very ſharp Knife, and that every Root be regularly placed, with the Earth well cloſed about it.

WHEN we are to plant Trees for Eſpaliers, we muſt have regard to place the Buds of the Trees parallel with the Eſpalier, ſo that when their Shoots are produc'd, they may lie parallel to the ſame, and be eaſily nail'd thereto; and here, as well as in Wall Trees, all forward Buds are to be diſplac'd, and luxuriant Branches nip'd at the fourth Bud, as aforeſaid.

WHEN we plant Fruit-Trees to make Dwarfs of, we ſhould head our Trees at ſuch Heights, ſo as to have at leaſt four Buds nearly at right Angles to one another, that thoſe Shoots which they produce may form the Head deſired.

THE whole Management of Dwarf-Trees, conſiſts in the Manner of Pruning the Ends of their Shoots, ſtopping the Luxuriancy of Branches as aforeſaid, and the true Diſtance of one Branch from the other.

NOW as Dwarf-Trees are deſired to grow with Concavities in their Middles, we muſt be ſure to prune their leading Shoots at an under Bud, ſo that when the next Shoot is produced, it may ſhoot outward, and thereby be conformable to the Form deſired: But if you cut at an upper Bud, then the next Shoot will grow inwards, and deſtroy the Form required.

HENCE it follows, that by obſerving the Situation of Buds, a Branch may be produced to fill up any Place deſired.

STANDARD-Trees are planted as Wall-Trees and Dwarfs; and 'tis much better to cut in their Heads very cloſe, than to plant them very large. If we are careful to prune at under Buds, as directed for Dwarfs, and rub away all other inward Buds, we may form very handſome Heads in the firſt Year.

THE larger Standard-Trees are, ſo that they are well rooted, the better, and will produce Fruits ſooner, and in greater Quantity, than

ſuch ſmall Trees, which are uſually planted, provided that they are ſecured from the Injuries of Cattle, Winds, *&c.*

THE Diſtance of Fruit-Trees from one another, is a very material Point to be conſider'd in Planting; for if we plant too near, we ſoon exhauſt our Soil, and deſtroy our Trees, for want of Air for Perſpiration; and if we plant too thin, we ſuffer a Loſs by having leſs than we might; but of the two Evils the laſt is the beſt.

PEAR-Trees require much Room to extend themſelves, and ſome Kinds more than others, as the Summer Bon-cretien, and many other Kinds, which when I come to their Deſcription I ſhall take Notice of; but in general we may aſſign 30 Feet for their Diſtance. And if between every two Trees we plant two others of different Kinds, as a Plumb and a Cherry, or a Peach and an Apricot, to be cut away as the Growth of the Pears require, we ſhall have no Loſs in the Walling, during the Time of their Growth.

WHEN we plant entire Walls of Peaches, Cherries, Plumbs, and Apricots, they may be placed at twelve, fourteen, or ſixteen Feet Diſtance, except the early ſmall *May* Cherry, which need not be more than eight or ten Feet apart.

STANDARDS planted in the open Air, ſhould be 30 Feet apart at the leaſt, but 35 is much better, and if you plant Dwarf-Trees between them, 40 Feet is full near. Theſe Diſtances may appear to ſome People very large, but when they conſider the Neceſſity of a free circulating Air for Perſpiration, and the Benefits of an under Crop, they will find the Advantages thereof.

N. B. *IF the Roots of Trees are very dry after taking up, ſoak their Roots for an Hour or two, in a Pound of Water,* &c. *but immerge no more than their Roots, that their Heads may ſtrongly attract the Water.*

IF your Trees, after taking up, are to be ſent any Diſtance, be ſure that you ſecurely pack them up with Straw and Mats, from the

Winds

Winds and Air, which oftentimes exhale away all their Moiſture, and thereby periſh.

IF Froſts prevent the Planting of Trees after taking up, they ſhould be kept in a warm Cellar, &c. *and cover'd cloſe from the external Air, until the Froſts are gone; and then, ſoaking their Roots, plant them as before directed.*

I HAVE already adviſed the preſerving of Roots in as great a Quantity as can be at taking up, at which Time I muſt caution you not to ſtrain them by drawing or wrenching, &c. *but take Time, dig large deep Holes, and take them up with Care.*

WHEN you purchaſe Trees from a Nurſery, always obſerve that the Soil wherein you are to plant them, be as good or rather better than that of the Nurſery, and eſpecially if your Trees are not over-and-above ſtrong; but luxurious Trees being planted from a rich Nurſery into a poorer Soil, are oftentimes made fruitful thereby.

WHEN you are to prune the Roots of a Tree, hold it in your left Hand with the Head behind you; and then pruning them with a very ſharp Knife, the Orifices of each Root will be placed downwards when the Tree is planted, whereby it can more ſtrongly imbibe Nouriſhment, than when the Face of the Cut is upwards, as often practis'd by unskilful Gardeners.

'TIS at the extreme Parts of the Roots, where the Cut is made, that they draw freſh Roots, which, if bruiſed in cutting with a bad-edged Knife, or not cut at all, putrifies and dies.

R CHAP.

CHAP. XI.

Of the Management *of* Fruit-Trees *after Planting; their* Seaſon *and* Manner *of Pruning, Nailing,* &c.

ALTHO' 'tis abſolutely neceſſary that great Care ſhould be taken in the Choice of Trees before we plant, as well as in the Preparation of Soils, Manner of Pruning their Heads and Roots, and Planting; yet if they are not well govern'd afterwards, our Labours and Expences are all loſt. There are many Gardeners in *England* that have had the Management of Fruit-Trees from their firſt Planting, and been very ſucceſsful therein, but it has all been by mere Accident, for there's not one of them all can account for any one Operation they do therein.

IF we ask them why a Tree muſt be pruned, they anſwer as Mr. *Wiſe* and Mr. *Carpenter* have done in their *Retir'd Gardener*, To keep it in Order, that the Fruits may not be injur'd or depriv'd of Nouriſhment, by the ſmall and luxurious Wood—and that it may continue a long Life: Which Reaſons are tolerably good were they well executed; but to their Misfortunes, they always, in their beſt Practice, not only ſuffer ſuch Sorts of injurious Shoots to be produc'd, but load Nature with ſo great a Burthen of other Wood, that a few Years bring about their irrecoverable Decay.

THIS I am certain will at firſt be underſtood by them as Self-conceit, for, to their great Misfortunes, there's no Sort of People breathing ſo vaſtly conceited and ignorant as moſt of our *Engliſh* Gardeners are, who therefore imagine all the World to be like themſelves: But however, if

they

they can but curb their ſuperficial Imaginations, and coolly read, ſo as to perfectly underſtand the following Paragraphs, they will plainly diſcover their long riveted Ignorance, and be led into a natural and reaſonable Method of working, whereby they'll be enabled to account for all their ſeveral Operations in the Management of Fruit-Trees, with abundance of Pleaſure and Certainty.

THE whole Management of Fruit-Trees after Planting, may be reduced to a very few Rules, and have the deſired Succeſs.

RULE I.

DISPLACE all forward Buds, by rubbing them off when they firſt appear, and then the whole Nouriſhment will be diſtributed to the neceſſary Branches. *By obſerving this Rule, your Trees will always lie cloſe to the Wall, and be free from the Snags, which are very diſagreeable and unprofitable; for whatever Fruits are produced in ſuch Situations, are never better than thoſe on Dwarfs or Standards.*

RULE II.

WHEN luxurious Branches only are produced, ſtop them, when each Branch contains four or five Buds in Length, by nipping off the leading Buds with your Finger Nails, which will cauſe them to produce new Branches from every Bud that will become fruitful; *for that Nouriſhment which Nature intended for one Branch, will be diſtributed into three or four, which conſequently cannot be ſo luxurious as when wholly imploy'd in one Branch: Therefore if this Rule is well obſerv'd, we need never be troubled with luxurious Wood.*

RULE III.

IF Fruit-Trees produce three or four Shoots, and all weak, diſplace the two weakeſt, that the whole Nouriſhment may be wholly imbibed by the ſtrongeſt, which will enable it to form a good Head.

RULE

RULE IV.

AS the Growths of the ſeveral Branches advance, keep them nail'd to the Wall; but be ſure that the Diſtances between Branch and Branch are never leſs than the Length of their Leaves, when fully grown: Therefore as Leaves are not come to their Maturity in the Spring, you muſt at that Time nail them at a greater Diſtance than aforeſaid; that when they are fully grown, they may in general poſſeſs a free drying Air, and not ſhade each other, to their almoſt total Ruin, for want of Perſpiration.

ON this very Point depends the whole Succeſs of our Labours; for when Fruit-Trees are loaded with great Quantities of Branches, nail'd very cloſe, a great Part of them are ſaturated, and clog'd with the Crudities of their Sap, for want of a free Air to perſpire in, and thereby become barren and uſeleſs. This is plainly demonſtrated in the Growth of Trees planted very cloſe together, as in a Wood, where the lower Branches, tho' neareſt to the Fountain of Sap, (*viz.* the Roots) are either dead, or very near it; whilſt thoſe at the Top, which are fartheſt from the Roots, but in a drying Air, perſpire freely and expand much: And *in Fruit-Trees 'tis the very* ſame, when their Branches are nail'd nearer together than the Lengths of their Leaves.

BESIDES this Advantage, of having Fruit-Trees fruitful in all their Parts, is not the only one; for by this Method of thin Nailing, there will not be half the Quantity of Wood for the Root to maintain, and conſequently thoſe Fruits that are produc'd, will be much better ſupported with Nouriſhment, and in greater Perfection, than when a Multitude of Wood and Fruit is fed but with the ſame Nutriment.

HENCE it follows, That as Fruit-Trees differ in the Length of their Leaves, ſo will the Diſtances of their ſeveral Branches be alſo different; and therefore the general Rule hitherto practis'd by Gardeners in laying the Branches of all the ſeveral Kinds of Peaches, and other Fruits, at the ſame Diſtance, appears to be a great Miſtake.

THERE are many excellent Kinds of Fruits which produce great Plenty of Bloſſoms, and but very little Fruit, as the old *Newington*, and many other large Kinds of fine Peaches. This Sterility is cauſed by the too great Abundance of Wood, which, when 'tis cover'd over with its beautiful Bloſſoms, requires a much greater Quantity of Nouriſhment than the Roots are at that Time able to communicate, and thereby, for want of proper Nouriſhment, the Embryo Fruits are ſtarved, and more eſpecially when the Soil and Spring are both dry, their Perſpirations being then greateſt; and if Eaſterly Winds happen to blow at that Time, their very drying exhaling Nature, is a further Help to the Deſtruction of the Fruit.

BUT notwithſtanding that the old *Newington* Peach is always vaſtly full of Bloſſoms, as may be ſeen by *Fig.* IX. *Plate* II and III. yet if they are nail'd in at the Length of their Leaves, their Roots will be able to ſtrongly ſupport them, (as I have experienc'd) and produce plentiful Crops: for by obſerving this Diſtance, the Roots will not have one third Part of the Wood to ſupport, as when nail'd in thick, after the common Way.

THERE are ſome Kind of Peaches which Nature has been more kind to than others; as in this very Caſe; the *Albemarle* and *Catherine* Peaches produce Leaves with their Bloſſoms, (ſee *Fig.* VI and VIII. *Plate* II and III.) which ſtrongly attract Nouriſhment from the Roots to the Bloſſoms, which the old *Newington* does not, it having Bloſſoms only; which may in ſome Degree be the Cauſe of its producing but ſmall Quantities of Fruit: but this may be greatly help'd in Pruning, as I ſhall in its Place demonſtrate.

RULE V.

THE nearer Branches are laid to an horizontal Poſition, the Velocity of the Sap is the more retarded, and the nearer to a perpendicular Poſition, the more freer; therefore Branches that are inclinable to Luxuriancy, may be check'd by being nail'd horizontally; and thoſe that are weak, help'd by being nail'd perpendicularly.

NOW theſe Extremes being only fit for the two aforeſaid Kinds of Wood, we muſt therefore make Choice of a mean Situation, for our beſt and moſt healthy fruitful Branches; and therefore they ſhould be ſo laid, as to make an Angle of 45 Degrees, or thereabouts, with the Horizon.

RULE VI.

FRESH nail all Branches every Year, that they may have a free Dilatation.

THE next material Matter to be conſider'd, is the beſt Time of the Year for Pruning, which, among all our famous Gardeners, is left undetermin'd, every one aſſigning his own Seaſon, but not one of them has yet given a ſingle Reaſon for it.

FIRST then, that we may be certain of laying the Branches at their proper Diſtances, we ſhould prune our Trees in the End of *Auguſt*, and Beginning of *September*, before their Leaves are fallen, which will then exhibit to us the juſt Diſtances; which cannot be ſo exact, if we prune them in the Winter Seaſon, as is uſual.

SECONDLY, Branches being prun'd in this Seaſon, juſt before their Growths are at an End, and the Air kind and warm, Nature will immediately cloſe up, and heal the Orifices of the Sap-Veſſels, before the Wet and Cold of the Winter comes on, which they imbibe to their Prejudice, when prun'd in that Seaſon.

THIS I have oftentimes experienc'd, and therefore recommend it to the Curious: But when you prune off the End of a Shoot, you muſt always take it for a Rule to cut an Inch at leaſt above the Bud, (which muſt always be a Leaf, and not a Bloſſom-Bud, as I ſhall hereafter demonſtrate) which, after periſhing down to the Bud for want of Nouriſhment, becomes ſo very hard, as to protect the whole Branch from the Injuries of Wet and Cold.

THIRDLY, When Fruit-Trees are pruned in the End of Autumn, their Roots have not ſo great a Quantity of Wood to ſupport thro'out the Winter, as when prun'd in the Spring, and conſequently are better able to ſupport their Bloſſoms in the Spring. And again, the leſſer the Quantity of Wood is on a Tree thro'out the Winter, the leſs crude Sap is imbibed, and conſequently the Tree is much more perfect, and in better Health.

FOURTHLY, When Branches are prun'd early in the Winter, and the Orifices of their Sap-Veſſels firmly cloſed, the attracting Force of the Leaves in the Spring, is not weaken'd, by the many Inlets of freſh Wounds, which muſt happen when Trees are prun'd late in *February* and *March*.

HENCE ariſes the Reaſon why luxuriant Trees, prun'd late in the Spring, are thereby check'd in their Growth : For the Sap-Veſſels being open by the ſeveral Wounds at the Ends of their Shoots, the attractive Power of the Leaves cannot ſtrongly attract Nouriſhment, until thoſe many Inlets or Sap-Veſſels are cloſed ; and therefore 'tis that the Luxuriancy is in ſome Degree abated.

NOW from this 'tis evident, ~~that the beſt Seaſon~~ for Pruning luxuriant Trees, is late in the Spring ; and thoſe that are weak, or in a healthy State, early in the Winter ; or rather, as before is ſaid, in the End of the Autumn.

THE ſeveral Rules here deliver'd being well obſerv'd, we need never fail of having good Wood in all our ſeveral Kinds of Fruits-Trees : And the only Thing that is now wanting to compleat this Part of Pruning in general, is the Reaſons and Manner of Pruning the Ends of Branches.

THE Reaſon why the Ends of the Branches of ſome Sorts of Fruits are cut ſhort at the Time of Pruning, is, becauſe the extreme Parts thereof being produc'd in the latter Part of the Year, when the Sap was declining in its Strength, they are not ſo perfect and mature, as thoſe Parts of the Shoots which were firſt produc'd, and therefore the immature Parts ſhould be cut away.

NOW

NOW to determine what Quantity of a Shoot ſhould be cut away, is very difficult, becauſe different Seaſons have different Effects on their Growths, and therefore this Point muſt be wholly ſubmitted to the Judgment of the Pruner; and 'tis therefore that we muſt be ſure to prune at a Leaf-Bud, and for want thereof, nail in the Branches at their full Lengths.

YOUNG Trees that are truly healthy require the leaſt Reduction, and very often may be nail'd in at full Length, eſpecially when all their Buds are diſpoſed for Bloſſom, as Peaches, Apricots, and Morella Cherries are very apt to do: And there are ſome Sorts of Pears, which produce the moſt of their Fruits at the extreme Parts of their Shoots, and therefore muſt not be topp'd, becauſe you not only cut away Part of the Fruits, but the leading Bud of the Shoot alſo, for want of which the Shoot dies as ſoon as the Fruits thereon are ripen'd.

CHAP.

CHAP. XII.

Of the great Uſe of the Leaves *of* FRUIT-TREES, *and their* Force *of imbibing* Moiſture *for the Support of their* Bloſſoms, Fruits, *&c.*

IT is very plain, from the ſeveral accurate Experiments of the Reverend Mr. *Hales*, that the Leaves of Fruit-Trees are very ſerviceable in attracting Nouriſhment from the lower *Strata's*, within the Reach of the tender Fruits, which, like young Animals, is furniſh'd with proper Inſtruments to imbibe thence. And by the ſame Experiments 'tis manifeſted, That the main excretory Ducts of Plants, are in their Leaves, which ſeparate and carry off the redundant watery Fluid, which, when detain'd, turns rancid and prejudicial: So that from thence we are taught the Neceſſity of preſerving them, ſince 'tis impoſſible they can live without.

AND altho' Fruit-Trees, which are Inanimate, have not a Power with alternate Dilatations and Contractions, to drive forcibly about their Sap in its Veſſels, as the Blood of Animals is thro' their Arteries and Veins; yet has Nature wiſely contrived other Methods, which moſt powerfully attract and keep it in Motion, whereby the ſame Purport is anſwer'd.

AND that nothing may be imbibed by the Roots of Trees, but what may be diſcharged by Perſpiration; therefore Nature has wiſely cover'd their Roots with a very fine thick Strainer, which will not admit any Kind of Moiſture to enter, but what can be readily carried away by Perſpiration.

THE ſeventh curious Experiment of Mr. *Hales*'s *Vegetable Staticks*, *p.* 28. on the Dwarf-Pear Tree, and Branches of Apple, Pear, Cherry, and Apricot Trees, are undeniable Proofs of the great Uſes of Leaves to Fruits, which I deſire every Gardener to well conſider, and be not too much puffed up with their own Conceits.

THE firſt Part of this Experiment was made on a Dwarf-Pear Tree, taken up in *Auguſt*, whoſe Weight (clear from Earth) was 71 Pounds one half; and its Roots being ſet in a known Quantity of Water, imbibed 15 Pounds thereof in 10 Hours, and perſpired at the very ſame Time, 15 Pounds one half; therefore it perſpired eight Ounces more than it imbibed. This ſeems to inform us that Pear-Trees delight in Moiſture, and that thoſe who imagin'd that all the Moiſture imbibed by Trees, was wholly converted into Sap, and the Formation of Buds, Branches, *&c.* are entirely miſtaken; for if 'twas ſo, the Pear-Tree would have retain'd the whole Quantity imbibed, which it did not do.

THE other Part of this Experiment, on the ſeveral Branches which this curious Gentleman made, is a further Proof, that the Quantity of Moiſture attracted, is always in Proportion to the Quantity of Leaves.

AS for Example:

HAVING made Choice of two Branches of every Kind of Fruit, he ſtripp'd the Leaves off one Branch of each Sort, and then ſet their Stems in ſeparate Glaſſes, wherein were known Quantities of Water.

THE Branches with Leaves imbibed large Quantities of Water, as ſome 15, 20, 25, and 30 Ounces, in 12 Hours Day, according to the Quantity of Leaves on each; and being weigh'd in the Evening, were lighter than in the Morning.

WHILE the others that were ſtripp'd of their Leaves, had imbibed but very little, as an Ounce, *&c.* each, were heavier in the Evening, they having perſpired little.

NOW

NOW from theſe Experiments 'tis plain, that thoſe Gardeners who pull off great Quantities of Leaves from Fruits, before they are fully grown, injure them very much, not only by letting in a ſudden Heat, which ſhrinks the tender Sap-Veſſels of the Fruits; but being of themſelves unable to attract the ſame Nouriſhment which they before receiv'd, do therefore inſtantly periſh.

IN *Auguſt* 1727. I made Choice of ſeveral Branches of the White Muſcadine Grape, whereon were many very fine Bunches; I entirely ſtripp'd off their Leaves, and left ſome of them wholly expoſed to the Sun and Air, whilſt others, tho' ſtripp'd as aforeſaid, were ſhaded by the Leaves of other Branches, which I laid before them for that Purpoſe.

THOSE Branches that were ſhaded continu'd at a Stand, for the Space of 10 or 12 Days, and then decay'd very faſt; but the others that were fully expos'd, began to ſhrivel the third Day. Hence it appears, That the Leaves of Fruit-Trees, do not only preſerve the Fruits from the Injuries of Heat and Cold, but ſtrongly attract Nouriſhment to their Support, and perſpire away the Crudities thereof, thro'out their ſeveral Stages and Degrees of Growth.

IF we obſerve the great Care that Nature has taken to place the Leaves of all Kinds of Herbs, Plants, and Trees, exactly under their Buds, to attract Nouriſhment to them, we may eaſily conceive the Prejudice it is to them when they are taken away.

IF we obſerve the Growth of Fruit-Trees at their firſt ſhooting out in the Spring, we may, with abundance of Pleaſure, ſee the wiſe Order that Nature obſerves in all her wonderful Productions.

NOW ſeeing that Fruits cannot perſpire and flouriſh without the Aſſiſtance of Leaves; therefore Nature does wiſely produce them in all Fruits, either before their Bloſſoms appear, at the ſame Time, or ſoon afterwards.

THE *May Duke-Cherry*, *March* 26. (*Fig.* I. *Plate* V.) produces its Bloſſoms from the two Years Wood, and more particularly at and about

about the Joint between the two Years Growths, as at B, than in any other Parts: And during the while that Nature is opening the Bloſſom-Buds, thoſe of the laſt Year's ſhoot are largely expanding themſelves into Leaves, (as *a a a*, *&c.*) which ſtrongly attract Nouriſhment for the Support of the yet Embryo Fruits, and perſpire away the Crudities with which the Sap then abounds.

APPLES produce their Bloſſoms on Wood of two Year's Growth, but their firſt Leaves are not produc'd by the laſt Year's Shoots, as in the Cherries preceding. The firſt Leaves of Apples are produc'd at the Bloſſom-Buds, and are very largely grown before the Bloſſoms appear, or even before the Buds of the laſt Year's Shoots are open'd.

THE Branch of a *Nonpariel* (*Fig.* III. *Plate* VI.) exhibits the Growth of the Leaves at the Bloſſom-Buds D D, *&c. March* 26. which are greatly expanded, whilſt thoſe of the laſt Year's Shoots, *a a*, *&c.* are not viſibly beginning to ſhoot. But when their Bloſſoms are fully blown, (as *Fig.* I. *Plate* VII. and *Fig.* V. *Plate* XII and XIII.) then the Buds of the laſt Year's Shoots are much expanded; probably, becauſe that the Bloſſoms being then produc'd, require a greater Attraction of Moiſture for their Nouriſhment than before.

GRAPES are produc'd on Branches that ſhoot from the Buds of the laſt Year's Shoots, which are of a conſiderable Length, with their Leaves expanded, before the Fruits appear, as exhibited by the Branch of a White Muſcadine Grape, (*Fig.* II. *Plate* VIII and IX. *April* 10.) and by the firſt of *May*, the Time that their Bunches appear, their Shoots are very much extended, and their Leaves increaſed in Magnitude. (See *Fig.* II. *Plate* X.)

FIGS are ſomething different from other Fruits in their Manner of Production, and therefore Nature has wiſely placed a leading Bud at the End of every Shoot, (as A, *Fig.* I. *Plate* IX.) which opens its Leaves about *April* 12. and ſtrongly attracts Nouriſhment to the Fruits B C D E; and therefore when Gardeners unskilfully prune off the Ends of the Shoots in the Winter or Spring, thoſe Branches generally die ſoon after.

QUINCES

QUINCES produce very large Leaves before their Bloſſoms appear on the laſt Year's Wood, (ſee *Fig.* I. *Plate* VI.) which ſeems to be provided by Nature, on Purpoſe to perſpire away the vaſt Quantity of Crudities that are contain'd in their Sap, which, when confin'd, has the ill Conſequences before demonſtrated.

PEARS produce both Leaves and Bloſſoms from the ſame Buds, and being Fruits which imbibe great Quantities of Moiſture, muſt therefore have Leaves timely produc'd, to attract Nouriſhment for the Support of their Embryo Fruits, as well as for Perſpiration. (See *Fig.* I, II, III, IV, V. *Plate* II and III.)

PEACHES, *Plumbs*, and *Apricots*, produce their Bloſſoms ſome ſmall Time before their Leaves, which ſoon ſucceed, when their Branches are prun'd at Leaf-Buds, or for want thereof, left at their whole Lengths, (as *Fig.* III, IV, V, VI, VII. *Plate* VIII and IX.) where the leading Buds A A *&c.* are opening their expanding Leaves, for the Purpoſes aforeſaid.

BUT by the Time that their Bloſſoms are ſhed, their Leaves are largely grown, probably, becauſe that as their Fruits are then knit, or ſet for Growth, they require a greater Attraction of Nouriſhment for their Support, as well as Shade, to preſerve their tender Sap-Veſſels from the Injuries of Heat and Cold. (See *Fig.* I, and II. *Plate* XI. and *Fig.* II. *Plate* VII. of the *Nonpariel* Apple).

THE ſame is to be obſerv'd in *Cherries*, when in Bloſſom, whoſe Leaves are then greatly increaſed, (as *Fig.* I,II,III,IV. *Plate* XII and XIII.) But much greater as the Fruits advance in Growth, (ſee *Fig.* II. *Plate* VI. of the *Morella Cherry*, *May* 17. *Fig.* I, II. *Plate* XIV. of the *Apricots*, whoſe Leaves are largely grown in Proportion to the Fruits.

AND therefore it appears, That as Fruits advance in their Growths, and require greater and greater Nouriſhments; ſo are their Leaves proportionably augmented, whereby they are always able to attract ſufficient Juices for their Support, as well as to perſpire away the Crudities thereof.

CHAP. XIII.

Of Blights, *and the* Manner *of Ordering* FRUIT-TREES, *when in and going out of* Bloſſom, *Half-grown, and Ripe.*

ALTHO' 'tis abſolutely neceſſary that the Pruner ſhould judiciouſly prune and nail his Trees, yet if he has not regard to them afterwards, 'tis ten to one if he receives any Fruits from them.

THE Accidents that Fruit-Trees *are liable to when in* Bloſſom, are Blights, Exhalations, and being deſtroy'd by Inſects: But theſe in general are vulgarly called Blights.

BLIGHTS, are Froſts, and burning Heats, as Lightnings, *&c.* *Exhalations*, are cold drying Winds, and very dry hot Weather; and *Inſects*, are ſuch as Caterpillars, Flies, *&c.* which in general deſtroy Fruits, if not guarded againſt.

FIRST, Froſts are of two Kinds, the one which is very cold and dry, called the Black Froſt; and the other cold and hoary, (which is the Dew frozen, that falls in the firſt Part of the Night, before the Cold began to freeze) called a White Froſt.

BOTH theſe Kinds of Froſts are prejudicial to Fruits, at all Times when they happen; but of the two the Black Froſt is the moſt deſtructive, and eſpecially when it comes after a Shower of Rain in an Evening, before the Bloſſoms and Fruits are dry.

THERE

THERE are divers Methods, preſcrib'd by ſeveral Perſons, for preſerving Fruits from Froſts, which I have experienc'd, and find that there is none comes up to careful Covering with Mats, old Sail-Cloths, *&c.* which, being well faſtned that turbulent Winds cannot diſplace them, never fail of our deſired Succeſs. Nay, Peaſe-halm only, hung on the Branches, and ſecur'd from Winds, has the ſame Effect, being left on until they are largely grown, and then taken away by Degrees.

AND if it happen that the Weather continues freezing in the Day-time, let the Covering continue, even for three or four Days; and then, in the Midſt of the Day, if the Weather is any thing agreeable, open them for three or four Hours, and then cover them up as before. But when the Weather don't freeze in the Day-time, then open them about an Hour after Sun-riſing, and cover them up about the ſame Time before it ſets.

IF the Seaſon proves dry, and the Eaſterly Winds blow very freſh, 'tis abſolutely neceſſary to water the Bloſſoms of your Fruit-Trees; for thoſe Winds being of a very exhaling Nature, exhale away the Moiſture from the young Fruits, with greater Force than their Roots are able to communicate it, the Heat of the Seaſon being inſufficient to rarify the Sap thin enough for a Succeſſion; and thereby the Fruits are ſtarved for want of proper Nouriſhment.

BUT theſe Waterings muſt be carefully performed, that the Water may not fall on the Bloſſoms with ſuch Force as to bruiſe or beat them from the Branches: Therefore if with a Hand-Engine the Water be firſt forced into the Air, it will be there ſeparated, and fall down like Rain. The beſt Time for this Work, is the Morning about Ten or Eleven, becauſe, being water'd early, they will be dry again before the Evening comes on; which, if it happens to prove inclinable to Froſt, will not have ſuch an ill Effect on them, as when wet.

THE ſeveral Kinds of Inſects which are ſeen to deſtroy the Leaves of Fruits, may very reaſonably come with the Eaſtern Winds; or the Eaſtern Winds may hatch their Eggs, *&c.* as Mr. *Bradley* and others imagine. But I could never yet find that any Method would deſtroy, or

or keep them from Fruit-Trees, but frequent Waterings, which never yet have been known to fail.

'TIS obſervable that theſe Inſects never come in great Plenty, but when the Spring is very dry; and even then when the Weather changes to Rain, and becomes very wet, they inſtantly periſh.

THEREFORE ſince Nature has taught us a ſure Method of deſtroying thoſe Vermine, we have nothing more to do than to keep our Fruit-Trees in a continual ſupple State, by early and frequent Waterings in dry Seaſons, when thoſe Infects moſtly rage. But it is abſolutely neceſſary to begin theſe Waterings before the Leaves are infeſted by them, ſince it is a Refreſhment, and the Trouble very inconſiderable.

I AM not inſenſible that many Gardeners will condemn theſe Practices, becauſe the ſmall Trouble of Coverings, Openings, and Waterings, may perhaps be more than they care for: but however, ſince that after a great Expence and long Time waiting, we are deſirous of reaping the Fruits of our Labours, we ſhould never be ſhort of laying abſolute Command on the Gardener, ſince the Succeſs is very precarious without, and the Trouble *very little, as before* obſerv'd.

BUT to return from this Digreſſion. It appears by what is before ſaid of the exhaling Nature of the Eaſtern Winds, that the Fruit-Trees of Soils which are of very moiſt ſtrong Natures, can better diſpenſe with thoſe great Exhalations, than thoſe growing in Soils that are naturally hot and dry; for the moiſt Lands can more ſtrongly ſupport the young Fruits with Moiſture, than thoſe that are leſs furniſh'd therewith. But this does only happen when the Spring proves dry, becauſe when there are Rains ſufficient to ſupport the Perſpiration of Plants in light dry Soils, then the Moiſture in moiſt ſtrong Lands is in too great a Quantity, and the Trees being ſaturated and clogg'd therewith, for want of ſufficient Heat to exhale and perſpire it away, become immature and barren, by the over-and-above Crudities contain'd therein.

NOW from hence 'tis very probable, that *Kent*, whoſe Soil is naturally very moiſt, produces greater Crops of Cherries in dry Summers, than in wet ones: *& contra.*

THE

THE Gardens about *Twickenham*, *Iſleworth*, *&c.* in *Middleſex*, whoſe Soils are naturally drier than thoſe of *Kent*, have the beſt Crops in wet Summers.

ORCHARDS growing on the South Sides of Rivers, imbibe great Quantities of Moiſture at their Bloſſoms and Leaves, as 'tis exhaled away by the Sun; for the Trees being ſituate between the River and the Sun, imbibes the humid Steams as they paſs by them. But this never happens but in dry Seaſons, becauſe when Seaſons are very wet, Fruit-Trees imbibe very little, or ſcarcely any, being nearly ſaturate with the Moiſture of the Seaſon.

THUS much for Froſts, Eaſterly Winds and Inſects. Now we will return to our Fruits, which we ſuppoſe to have plenty of, and which will always happen, if we are careful to ſupply the Bloſſoms and Leaves thereof, with ſuch Refreſhings of Water as the Soil and Seaſons require.

OUR Fruits being plentifully ſet, we muſt be very watchful and diligent in covering them from Froſts, when any ſeem to offer; and therefore the beſt Method is to keep the Covering rowl'd up, on or near the Top of the Wall, in readineſs to let down as Occaſion may require. I had Apricots above one third grown, and well cover'd with Leaves, kill'd in great Quantities in the Beginning of *May* 1722.; which, had I fortunately cover'd, would have been preſerv'd, to my very great Advantage.

IF our Apricots and Peaches are very numerous, we muſt eaſe Nature of her Burden; and therefore about the End of *April*, we may thin our Apricots, and in the firſt Week of *May* our Peaches, leaving them about two Inches apart, at the leaſt. But Plumbs are ſeldom thinn'd, not but a reaſonable Subtraction muſt certainly improve the Remainders, which may be at the aforeſaid Diſtance.

IT is obſervable that Peaches, Plumbs, Apricots, *&c.* grow very little from about the 20th Day of *May*, to the like Time in *June*, Nature being

being then wholly employ'd in preparing and perfecting their internal Parts, *viz.* their Kernels, Stones, *&c.* with proper Veſſels fit for the Reception of future Nouriſhment, in ſuch Quantity, and with ſuch Force, as to ſtrongly feed and dilate their exterior Coats or Pulps, until fully grown.

NOW whilſt this great Operation of Nature is performing, 'tis always ſeen that great Quantity of Fruit drops, altho' largely grown. Of this all our late Authors on Gardening take Notice, and therefore adviſe, that the thinning of Fruits be omitted, until it appears that this great Fall is over; but not one of them has yet attempted to deliver Rules for their Preſervation.

THE meaneſt Capacity living may very eaſily believe, that if all the Fruits on a Tree were in perfect Health, it would be impoſſible for them to fall in a ſhrivel'd decay'd Condition, as they are obſerv'd to do; and therefore 'tis evident, that their Fall is cauſed by ſome Decay or Weakneſs of Nature; which laſt of the two ſeems the moſt probable.

FOR ſince that Nature requires Moiſture, for daily Perſpirations, as well as to incorporate the watery ſupple Subſtances of the Kernels, Stones, *&c.* 'tis very eaſy to conceive, that if very dry Weather exhales away that Moiſture which is neceſſary for thoſe Formations, the Work will be imperfect, and conſequently the Fruits muſt periſh.

THE firſt Idea of this wonderful Work of Nature, was communicated to me by the Honourable Mr. *Bruce*, who at the ſame Time inform'd me of ſeveral Experiments which he had made for their Preſervation, and found that the moſt ſucceſsful one, was, To preſerve them from the very hot Sun, from ten in the Morning until two or three in the Afternoon; which he did with the ſame Coverings of Sail-Cloth, that were uſed in the Spring, to preſerve their Bloſſoms from Froſts, *&c.* This I have alſo experienc'd with great Succeſs, and do therefore recommend it to the Practice of the Diligent and Curious; for tho' the Labour is little, yet the Recompence is vaſtly great.

N. B. *'TIS*

N. B. *'TIS very ſerviceable to give the Trees a gentle Refreſhing of Water, at the Time you begin to ſcreen them from the Sun, which they will freely imbibe, and very much ſtrengthens Nature in her Productions.*

ABOUT the 20th of *June* this Work is over, and as then the Fruits are beginning to ſwell away for ripening, we ſhould now thin them for good, taking away the leaſt promiſing ones, and preſerving the beſt.

THE Maſculine Apricot ſhould be left at or about the Diſtances that B C, *Fig.* IV. *Plate* XV. are, which is two Inches and a quarter; but the *Turkey* Apricots muſt have a larger Diſtance, as being a larger Fruit, and therefore we muſt allow them three Inches, as the Diſtance A B; and the *Roman* Apricot, whoſe Magnitude is a Mean between the two other Extremes, ſhould be left at about two Inches and three quarters.

AND as *Apricots* differ in their Magnitudes, and therefore require more or leſs Room for Perſpiration; ſo do Peaches likewiſe: the ſmall Kinds may be left at two Inches apart; thoſe of a middling Growth at four Inches; and our very beſt and largeſt not nearer than ſix Inches.

SOME Kind of Pears, as the *Green-Chizel, Summer-Bergamot, &c.* are very apt to produce their Fruits in Cluſters; but they are much the beſt when each Cluſter is reduced to two Pears only, excepting when the Cluſters are very thinly diſtributed on the Tree; and at ſuch Times they may be left in greater Number, as three, four, *&c.* according to their Diſtance, and Strength of the Tree.

BUT where there is a full Crop, 'tis beſt to leave them ſingle, or double at moſt.

BY the ſeveral Proofs of the preceding Chapter, 'tis plain that the Leaves of Fruit-Trees are vaſtly ſerviceable in drawing up Nouriſhment

riſhment to Fruits as they advance in Growth, as well as keeping them in a ſupple ductile State, by defending them from the Sun, and drying Winds, which contract and harden their Fibres, or Sap-Veſſels, and thereby ſpoil their Growth.

BUT when Fruits are almoſt fully grown, a little more Sun is neceſſary, to ripen their Juices, and give them their beautiful Colours; and therefore we muſt then by Degrees let in the genial Heat of the Sun, which will ripen them in the greateſt Perfection that the Seaſon is capable to produce.

N. B. *THAT 'tis better to tie back the Leaves with Baſs-mat, which are before the Fruits, than to cut them away; but if Time will not allow it, be ſure to preſerve thoſe at the End of the Shoots, that their neceſſary Attractions and Perſpirations may not be retarded, and thereby the Fruits render'd inſipid by the Crudities contain'd in them, that ſhould have been perſpir'd away at their excretory Ducts.*

CHAP.

CHAP. XIV.

Of the Manner *of gathering* FRUITS, *and Preſerving them after Gathering.*

NOTWITHSTANDING that we have ſtrictly follow'd all the preceding Directions, and got great Quantities of fine Fruits, yet if we don't know when to gather them, 'tis very probable that we may'nt have any worth our Eating; for when Fruits are gather'd before they are ripe, their Juices are crude, and being not fully grown, they immediately ſhrivel, and become tough. And on the other Hand, when Fruits hang on the Trees a longer Time than their Juices are ripen'd, their Juices are immediately preſpired or exhaled away, and the Fruits grow mealy and dry.

CHERRIES are fit to be gather'd when they are become a very deep black; and indeed, if they have a free drying Air, cannot be too much ripen'd. They are beſt being eaten from the Trees, after a Shower of Rain; but moſt commonly out of Spring Water after Dinner. The beſt Time to gather them is the Morning, when the Crudities of the Dew are evaporated, before the Heat of the Day comes on.

APRICOTS, *viz.* the *Maſculine*, *Roman*, *Turkey*, and *Bruxels*, are variouſly eaten; ſome delighting to eat them when criſp, others when mellow, or a little ſoft, but not mealy; which laſt, in my humble Opinion, is the beſt, becauſe that then all the Juices are in their utmoſt Perfection, which in the others are crude and immature.

SOME delight to eat them from the Tree, and indeed the *Bruxel* is beſt when ſo eaten; others not until the next Day after gathering, which

of the two ſeems to be the beſt, being gather'd in the Cool of the Evening, and laid ſingly on dry Vine Leaves.

PLUMBS, being next in Order, ſhould hang on the Trees until they will fall by an eaſy Touch of the Finger; but when they drop off themſelves, they are generally too ripe, and their Taſtes become inſipid.

BUT there are ſome Sorts of Plumbs which ſhould remain on the Trees until they begin to ſhrivel, and thoſe are the *Queen-Mother*, *Drabdor*, and *Imparatrice*, which are then equal to any Fruit whatſoever.

PLUMBS ſhould be gather'd in the Morning, when the Dew is off, before the Heat comes on; and as they in general have a beautiful Flew on their Surfaces, we ſhould gather them with a ſingle Finger and Thumb only, laying them in Nettles, when we intend to keep them a Day or two after gathering.

FIGS are fit to gather when Drops appear in their Eyes, or when they become very ſoft and ſhrivel'd about their Stalks, ſo as to hang almoſt pendant. In ſhort, if Figs have a free drying Air, they cannot be too ripe in our Climate. When you gather Figs, lay them on their Sides, on dry Vine Leaves; and in like Manner when ſerv'd up for the Table.

PEACHES ſhould be gather'd when they part from the Tree by a gentle Touch, and are beſt a Day or two after being gather'd. They muſt be laid ſingle on Vine Leaves, on their Stalk-End or Bottoms, becauſe when they are laid on their Sides, they inſtantly grow rotten.

GRAPES cannot be too well ripen'd, and therefore the longer they hang, ſo that they are not ſhrivel'd or mouldy, the better. All White Grapes are generally ripe when they are tranſparent, and ting'd with a faint Amber Colour next the Sun.

TO preſerve Grapes a long while after ripe; 'tis uſual to tie up every Bunch in Paper Bags, dipped in ſweet Oil, juſt before they are fully ripen'd; others gather them at that Time, and ſealing up their Ends with

with Wax, hang them ſingly in a warm Room, which will preſerve them a long while: But the very beſt Method that I could ever diſcover, was to gather them when nearly ripe, in a very dry Day, cloſing up the Orifices of their Stalks with Wax; and then after having hung about the Space of one Day, to perſpire away what Crudities they had in their Juices, I put each Bunch in a glazed Earthen Veſſel, in ſuch Manner as to hang within Side, without touching any Part thereof; and having before prepar'd a ſufficient Quantity of Sand well dried, I fill'd up each Pot therewith; and then with wooden Covers to their Tops, ſeal'd them down, ſo as to let no Air or Moiſture in. Then placing my Pots in a warm Cellar, I kept them till my Occaſion requir'd me to uſe the Fruits, which was about three Months after their natural Seaſon. And 'tis my real Opinion, that not only theſe Sorts of Fruits, but Peaches, Apricots, Plumbs, *&c.* may, by the ſame Method, be kept many Months beyond their common Time.

WHEN I pour'd away the Sand from the Bunches, I dipped them in clean Water, made Milk-warm, which waſhed off the Grit of the Sand, and cauſed a Kind of a Flew to ſucceed.

SUMMER-Pears (like moſt other Summer Fruits) are in greateſt Perfection when they fall from the Tree by a gentle Touch; but thoſe that fall of themſelves are generally mealy.

AND ſome Autumn Fruits are to be eaten in like manner, which will not keep a long while after gathering, and ſuch are the *Burees*, *Monſieur John*, *&c.*

BOTH Autumn and Winter Fruits muſt not be gather'd until you ſee them begin to drop off themſelves, for then you may aſſure your ſelf that Nature has perform'd her Part. 'Tis very prudent to lay clean Wheat Straw under our Wall-Trees; and indeed Eſpaliers, Dwarfs, and Standards alſo, where the Kinds are good, to preſerve the firſt perfect Fruits from being bruiſed.

AND be ſure that you gather in your Winter Fruits before the Froſts come on, and that they are perfectly dry, and free from Bruiſes. The beſt Method of ſorting Fruits, is at gathering, taking the beſt firſt, then the

the next beſt, and laſtly the ſmall ones. This Method preſerves them from thoſe Bruiſes, which cannot be avoided, when the ſeveral Sizes of Fruits are gather'd together, and afterwards tumbled about in ſorting.

THE cloſer that Autumn and Winter Fruits are kept from the Air, and the leſs diſturb'd in keeping, the longer and better they will keep, being warm and free from Vermine, which we muſt carefully guard againſt; the firſt by keeping the Windows cloſe, and covering thick with ſweet Wheat Straw; and the latter with Traps, Cats, *&c.*

THE ſeveral Kinds of Fruits which follow in the enſuing Chapters, are in general of the beſt Sorts: And altho' I have placed to every Fruit, the Day on which 'twas ripe this Year 1727. yet it is not to be expected that every Year hereafter will produce them at the ſame Time. I have already proved that the different Nature of Soils alters the Goodneſs of Fruits, and therefore the ſame is to be underſtood in the Seaſons of Ripening and Duration: For as thoſe Fruits which grow on the Tops of Trees are ſooner ripe than the others nearer to the Roots, they having leſs Nouriſhment communicated to them; ſo are Fruits much forwarder in dry, ſandy, gravelly Soils, which have much leſs Plenty of Moiſture, than Lands that are more plentifully ſtored therewith. For tho' Moiſture promotes Growth, yet *it retards the* Maturity of Fruits; and 'tis therefore that the Opening of the Roots of Fruit-Trees in moiſt Lands, cauſes their Fruits to be conſiderably forwarder.

AND ſince that the different Natures of Soils cauſe Fruits to ripen ſooner in one Place than another, 'tis therefore that ſome Peoples Winter Fruits, as Pears, *&c.* are ripe and gone before their Neighbours are ſcarcely eatable.

CHAP.

CHAP. XV.

Of CHERRIES.

CHERRIES produce their Fruits, either on the lateral Snags of the two and three, *&c.* Years Wood, or on the laſt Year's Wood only, as the early *May*, and *Morella Cherries*, and therefore their yearly Shoots ſhould not be topp'd or prun'd: For by *Fig.* II. *Plate* XVI. which is the laſt Year's Shoot of the *Morella Cherry*, it appears that moſt of the Fruits are produced at the End of the Shoot which would have been cut away, had that Shoot been prun'd at the End, as is uſual.

THE Nature of theſe Sorts of Cherries is ſuch, that that Wood which produces Fruit this Year, is always barren after, excepting now-and-then ſome few Fiddes or Spurs, ſuch as *d d*, (*Fig.* III. *Plate* IV.) where A B is Part of the laſt Year's Shoots, with its Buds ſwelling for Bloſſom, and B C the barren Wood of two Year's old.

NOW ſeeing that the yearly Shoots become barren after once bearing, we are thereby taught the Neceſſity of preſerving new Wood every Year, in all the Parts of our Trees, for a Succeſſion: For when this Care is not taken, our Trees produce their Fruits in their extreme Parts only, and their interior Parts are wholly barren.

THE *Morella Cherry*, when well ripen'd, is an excellent Fruit for the Table, as well as for Preſerving, and is a very great Bearer.

THE early ſmall *May-Cherry*, (*Fig.* II. *Plate* XVII.) produces its Fruits in the ſame Manner as the preceding, and therefore we muſt in the like Manner preſerve the yearly Shoots to ſucceed thoſe which produce Fruits the ſame Year: But ſometimes the Wood of two Years old, produces Fiddes or Spurs, which bring good Fruits, (as *d d d*, *&c.* *Fig.* V. *Plate* IV.) the two Years Wood of the *May-Cherry*.

THE yearly Shoots of this Cherry have their Buds very nearly ſet together, as *d d d*, *&c.* repreſented in *Fig.* IV. of the ſame Plate, and therefore produce great Quantities of Fruits.

THE *Holmans-Duke*, (*Fig.* I. *Plate* XVII.) is an excellent Fruit, and great Bearer, as may be ſeen by the Bloſſom-Buds *d d d*, *&c.* (*Fig.* III. *Plate* IV.) which are ſituate on the two Years Wood B C, near to whence the laſt Year's Shoot A B was produced. The Buds *b b b*, *&c.* are Leaf-Buds, which prepare themſelves in the firſt Year after they are produc'd, to bear Fruits in the ſecond: And the like of the *White* and *Black Heart*, (*Fig.* IV, V. *Plate* XVIII.) whoſe ſeveral Branches and Buds are in the ſame Manner exhibited in *Plate* IV. *Fig.* I and II.

THE *Carnation-Cherry*, (*Fig.* III. *Plate* XVI.) in good Land, is an excellent fine large firm pulped Fruit, comes late, and is better from a Standard than againſt a Wall. If 'tis well order'd it produces a good Crop, for it naturally produces much Bloſſom, as may be ſeen by the Buds *Fig.* II and IV. *Plate* V. where the Bloſſom Buds *d d d*, *&c.* *Fig.* IV. are but preparing themſelves for opening: But thoſe of *Fig.* II. *b b b*, *&c.* are greatly expanded, even almoſt into Bloſſom.

THE *Corone*, *Gaſcoigne*, and *Bleeding-Heart-Cherries*, being produc'd on Fiddes or Spurs of the two Years Wood, need no further Explanation.

THERE are many other Kinds of Cherries that are very good, as the *Lukeward*, *Moriſco*, *&c.* which I could not procure this Seaſon, and therefore omit their Deſcriptions until I can gratify the Curious with their true Repreſentations and Qualities.

N. B. *THAT*

N. B. *THAT the Leaves of the ſeveral Fruits repreſented in this Work, are exactly after Nature itſelf, being the real Impreſſions printed from the Back of every Leaf, when they were firſt taken from their reſpective Trees.*

THE ſeveral Fruits are alſo as accurately delineated, which I perform'd, by cutting them exactly thro' from their Vertexes, perpendicularly to their Baſes; and then laying their Sections on Paper, I truly traced their Out-lines, by the extreme Parts of their Sections, and afterwards ſhadow'd them as herein exhibited; ſo that I can juſtly ſay, they are a perfect and exact Geometrical Repreſentation of Nature.

CHAP.

CHAP. XVI.

Of APRICOTS.

APRICOTS, or *Abricots*, in general, produce Fruits on the laſt Year's Shoots, and therefore we muſt always take care to preſerve young Wood for a Succeſſion, that when we are oblig'd to cut out that which is barren, we may ſupply the Stead with that as is fruitful. But all the Fruits are not produc'd on the extreme, or laſt Year's Shoots, becauſe the Wood of two Years old does generally produce ſmall fruitful Branches, as *b b d*, *Fig.* I. and *m n b o*, *Fig.* II. *Plate* XIX. which likewiſe produce good Fruits.

THE ſmall lateral Branches are oftentimes nail'd in at full Length, as *c n b o*, *Fig.* II. but they produce better Fruits when they are pruned, as *b b*, *Fig.* I.

THE firſt ripe Apricots are produc'd at the Joint, between the firſt and ſecond Year's Wood, (as at B, *Fig.* III. *Plate* VIII and IX.) where you ſee thoſe Bloſſoms are fully blown, whilſt the others above, at *c c c*, are not half ſo much expanded, becauſe they receive leſſer and later Nouriſhment from the Roots than thoſe at B; and in like manner thoſe at *d d d*, leſs and later than thoſe at *c c c*; and therefore it is that we are furniſh'd with ſeveral Crops, whereby they continue much longer, than were they to ripen all together at one Time: But 'tis always found that the firſt Crop is the beſt.

THE *Maſculine Apricot*, (*Fig.* I. *Plate* XV.) is the firſt that is ripe; and when 'tis diſcretionally thin'd, and timely gather'd, is worth the Notice of the moſt Curious; but when they are ſuffer'd to grow

in

in great Quantities, and gather'd before or after they are ripe, they are worth nothing.

THE next *Apricot* in Order of Ripening is the *Roman Apricot*, (*Fig.* BCDE, *Plate* XV.) which is a very great Bearer, and pleaſant juicy Fruit, if gather'd before 'tis mealy. Next to this is the true *Orange Apricot*, which, of the two, is much the beſt Fruit. But the very beſt Sorts, are the *Turkey*, *Bruxels* or *Breda*, commonly called the *Bruſſels Apricot*.

THE *Turkey Apricot*, (*Fig.* II. *Plate* XV.) is an excellent, fine, beautiful, pleaſant-taſted Fruit, but is generally a bad Bearer, when over-loaded with Branches, according to the common Method of nailing them. But on the contrary, when laid at the Length of their Leaves, as before directed, 'tis a Fruit that ripens about a Month after the others, and continues ſome Time.

THE *Bruxel Apricot*, (*Fig.* III.) is alſo ripe about this Time, and beſt on a Standard; 'tis a very great Bearer, and the very beſt of all the ſeveral Kinds of Apricots, its Pulp being always firm, with a fine brisk high-flavour'd Juice. 'Tis beſt propagated on the Muſcle-Plumb Stock, either by Grafting or Inoculation, and delights in a warm Soil and Situation.

CHAP. XVII.

Of PLUMBS.

PLUMBS produce their Fruits on the laſt Year's Branches, as well as on ſmall lateral Snubs, as *a a a*, *&c.* on the two Years Wood, *Fig.* IV. *Plate* XIX.

THE Bloſſom-Buds of *Plumbs*, as well as of *Peaches* and *Apricots*, are double, as *c c*, *&c.* and therefore eaſily diſtinguiſh'd from Leaf-Buds, which are ſingle, as *b b*, *&c.* *Fig.* III. *Plate* XIX.

WHEN the laſt Year's Shoots have lateral Shoots, as I H K, *Fig.* III. *Plate* XIX. 'tis neceſſary to reduce them within an Inch, or an Inch and half of the grand Shoot, as at *i b k*; but thoſe that are very ſhort, as *n m* H, may be left unpruned.

THERE are a very great Variety of Plumbs, of which ſome are very good, and others very bad; which laſt being unworthy of our Notice, I ſhall therefore only have regard to thoſe that are valuable.

THE firſt ripe is the *Jean-hative*, *White Primordian* or *London Plumb*, (*Fig.* I. *Plate* XX.) which is of a fine clear yellow, with a white Flew, a great Bearer, and pleaſant Juice, ripe *June* 9, 1727: But oftentimes when this Fruit is unskilfully pruned, as in *Fig.* I. *Plate* XXI, XXII. where the Shoots A B being prun'd at Bloſſom-Buds, and their Fruits thereby left deſtitute of Leaves which cauſed them, are ſeldom worth our Notice; for altho' they are within the Power of Attraction, and ſupplied with the Juices that are attracted up by the Branch C D, yet for want of Leaves they cannot ſo well perſpire away the Crudities

of the Nouriſhment they imbibe, and are thereby render'd imperfect: Beſides, being expoſed to the Sun and Air, their Sap-Veſſels are thereby dried up, and conſequently cannot receive Nouriſhment in ſo great a Quantity, as when in a ſupple ductile State.

THE *Red Primordian* (*Fig.* II. *Plate* XX.) differs very little from the preceding, except in Colour, which is a dark Red, cover'd with a Violet Flew, and the Manner of producing its Fruits, which are generally in Cluſters, (as *Fig.* III. *Plate* XXI and XXII.) 'Tis a very pleaſant-taſted Fruit when well ripen'd, and not too great a Number upon the Tree: It ripens about three Weeks after the *Jean-hative*, viz. *June* 1.

THE *Morocco Plumb*, (*Fig.* III. *Plate* XX.) is a fine Plumb, of very dark or blackiſh Blue, cover'd with a fine light Violet Flew, a good Bearer, and ripens about *July* 14, 1727. on an Eaſt-Wall.

THE *Orleans Plumb*, (*Fig.* IV. *Plate* XX.) tho' a common, yet a very valuable Plumb, as well for its fine firm juicy Pulp when well ripen'd, as its being a conſtant and plentiful Bearer. 'Tis of a pleaſant reddiſh Blue, next the Sun, and a yellowiſh Green in its oppoſite Parts; the Pulp is a little yellow, and comes from the Stone.

N. B. *THEIR common Magnitudes are generally as large as the prick'd Line* A B, *repreſented in* Plate XX. *Ripe* July 10, 1727. *South-Weſt Wall.*

THE *Fotheringham* or *Foderingham Plumb*, (*Fig.* VI. *Plate* XX.) alſo called the *Sheen Plumb*, in reſpect to its being a favourite Plumb to Sir *William Temple*, who liv'd at *Sheen* near *Richmond* in *Surry*; hath its Pulp very firm and criſp, full of an excellent rich Juice, and comes from the Stone. Next the Sun 'tis a dark but a pleaſant Red, a little ſpotted, and cover'd with a very thin light Violet Flew.

ITS Skin is ſomething hard, when Seaſons are Wet and Cold; and at ſuch Times 'tis very apt to open at its Bloſſom-End, before ripe: 'Tis an excellent Fruit againſt a South-Eaſt Wall, but very indifferent when a Standard or Eſpalier: Ripe *July* 14, 1727. South-Eaſt Wall.

THE

THE *Imperial*, (*Fig.* V. *Plate* XX.) or *Red Bonum Magnum*, is a beautiful but ſomething coarſe Plumb, when eaten raw; and therefore 'tis oftner uſed for Baking, Preſerving, *&c.* and is then much eſteem'd, by the Curious: Ripe *July* 15. North-Weſt Wall.

THE *Violet Plumb* (*Fig.* VII.) an old but valuable Plumb, either for the Table or Tarts: The Pulp is of a greeniſh Yellow, cover'd with a deep blue Skin, with a moſt pleaſant Violet Flew; 'tis a great Bearer, and worth the Notice of the moſt Curious: Ripe *July* 15, 1727. Weſt Wall.

THE *Royal* (or Sir *Charles Worſley*'s) *Plumb*, *Fig.* VIII. *Plate* XX.) ſo called in reſpect to its very rich ſugar'd juicy Pulp, which cleaves to the Stone, and is cover'd with a light Red about the Bloſſom-End, with faint red Specks from the ſame, ending in a yellowiſh Green: 'Tis beſt in warm moiſt Lands, being ſubject to rot upon the Tree before ripe in wet Lands, and loſes very much of its fine, rich, acid Flavour. 'Tis a good Bearer, and may be juſtly plac'd in the firſt Rank of Plumbs: Ripe *July* 20, 1727. South-Eaſt Wall.

THE *Blue* or *Violet Perdrigon*, (*Fig.* IV. *Plate* XXIII.) is an excellent Plumb; its Pulp richly ſugar'd, and cover'd with a fine Violet Flew, ſomething yellowiſh within: 'Tis a good Bearer, and one of the very beſt in *England*: Ripe *July* 20. Weſt Wall.

THE *White Perdrigon* (*Fig.* V. *Plate* XXIII.) is a yellowiſh Plumb, ſometimes ſpotted with reddiſh Spots, cover'd with a white Flew: Its Pulp is yellow within, very ſweet, with a pleaſant Acidity attending it, and comes from the Stone, but the Skin is often ſomething bitteriſh. 'Tis a good Bearer: Ripe *Auguſt* 1. Weſt Wall.

THE *Musk Perdrigon* (*Fig.* III. *Plate* XXIII.) is an excellent Plumb; its Pulp comes from the Stone, very firm, full of a rich ſugar'd Juice, cover'd with an almoſt black Skin, and fine Violet Flew: Ripe *July* 20. Weſt Wall.

THE

THE *Cerney Perdrigon*, (*Fig.* I. *Plate* XXIII.) is a moſt beautiful Fruit, cover'd with a Crimſon Red, and faint Pearl-colour'd Flew; and when well ripen'd, its Juices are very agreeable, which otherwiſe are ſomething harſh and acid: Ripe *July* 20. Weſt Wall.

THE *Cheſton Plumb*, *Fig.* II. *Plate* XXIII.) is a moſt delicious rich Fruit, and therefore deſerves a South-Eaſt Wall; its Colour is a deep Indigo, cover'd with a fine Violet Flew: 'Tis a good Bearer, and therefore no Gentleman that delights in theſe Fruits ſhould be without it: Ripe *July* 15. Weſt Wall.

THE *Maitre Claude*, (*Fig.* VI. *Plate* XXIII.) is another excellent Plumb, full of a fine rich Juice, and a firm Pulp, which comes from the Stone, and cover'd with a beautiful Mixture of Red and Yellow: Ripe *July* 23. South-Eaſt Wall.

THE *Reine Claudia*, or *Queen Claude*, (*Fig.* VIII. *Plate* XXIII.) is an excellent Plumb, yellow next the Sun when ripe, and cover'd with a Pearl-colour'd Flew. The Pulp is yellowiſh within, very firm, comes from the Stone, and is very full of an excellent ſweet rich Juice, a good Bearer: Ripe *Auguſt* 8. Weſt Wall.

THE *White Mirable*, (*Fig.* VII. *Plate* XXIII.) is a ſmall Amber-colour'd Plumb, and a great Bearer; its Pulp comes from the Stone, and is vaſtly rich, with a fine delicious ſugar'd Juice. The Fruits are very richly ſugar'd, even when produc'd on Standards, or Dwarfs, but much finer againſt an Eaſt or South-Eaſt Wall: Ripe *July* 20, 1727. from a Standard.

THE *White Matchleſs*, (*Fig.* I. *Plate* XXIV.) is a beautiful Fruit, of a light yellow Colour, cover'd with a white Flew. When this Fruit is well ripen'd, 'tis an excellent Plumb, but if eaten before 'tis ripe, the Pulp is ſomething harſh and acid; 'tis a tolerable good Bearer: Ripe *July* 24, 1727. Weſt Wall.

THE *Black Damoſine*, (*Fig. II. Plate XXIV.*) is a very pleaſant acid Plumb, upon its Ripening, but afterwards more ſugar'd; its Pulp comes from the Stone, of a greeniſh Yellow within, very deep or rather a blackiſh Blue, cover'd with a fine Violet Flew; 'tis a very good Bearer: Ripe *July* 25, 1727. Eaſt Wall.

THE *Queen Mother*, (*Fig. III. Plate XXIV.*) is an excellent Fruit, when fully ripen'd ſo as to be a little ſhrivel'd on the Tree; its rich Pulp is yellow within, comes from the Stone, which is very ſmall in Proportion to the Whole; next the Sun is a dark Red, which loſes its ſelf with a few red Spots, in a dark Yellow: 'Tis a very good Bearer, but in ſome wet Soils 'tis very ſubject to be Maggot-eaten within-ſide: Ripe *Auguſt* 12, 1727. South Wall.

THE *Green Gage*, (*Fig. IV. Plate XXIV.*) is another of the very beſt Plumbs; its Pulp is green, richly ſugar'd, and comes from the Stone; 'tis cover'd with a greeniſh yellow Skin, which, when ripe, hath a little Bluſh of red Spots next the Sun, with a very pale Flew. This, like the *Queen Mother*, is very ſubject to Worms or Maggots in wet Seaſons: 'Tis a great Bearer when well pruned, and is an excellent Fruit even on Dwarfs or Eſpaliers, but much better againſt a South-Eaſt Wall: Ripe *July* 30, 1727. Eaſt Wall.

THE *Drab-d'or*, or *Cloth of Gold*, (*Fig. V. Plate XXIV.*) is another moſt valuable Plumb; its Pulp is richly ſugar'd when fully ripe, yellow within, and comes clean from the Stone; its Out-ſide is a deep beautiful Yellow, ſpeck'd with Red, and cover'd with a very light Pearl-colour'd Flew; 'tis a very great Bearer: Ripe *July* 20. Weſt Wall.

THE St. *Catherine*, (*Fig. IV. Plate XXIV.*) is an excellent good Plumb, when diſcretionally thin'd on the Tree, it being naturally a very great Bearer: The Pulp is very firm and ſweet, yellow within, but it cleaves to the Stone; its Out-ſide is an Amber-colour, cover'd with a whitiſh Flew.

IN a wet Seaſon 'tis ſubject to Worms, which I believe to be generated by the Crudities of the Sap, for want of Perſpiration; becauſe when

when they are kept thin in wet Seaſons, they are not ſo much affected therewith : Ripe *Auguſt* 12, 1727. Eaſt Wall.

THE *Yellow Diapree*, or *Diaper'd Plumb*, (*Fig. IV. Plate XXIV.*) is a ſmall but very good Fruit ; its Pulp is a beautiful Yellow within and without, and comes from the Stone. It muſt be eaten as ſoon as gather'd, being ſomething mealy when kept a Day or two afterwards : Ripe *Auguſt* 6, 1727. Eaſt Wall.

THE *Turkey Plumb*, (*Fig. V. Plate XXV.*) is a large beautiful Fruit ; its Pulp is of a greeniſh Yellow within, very ſweet, and cover'd with a pleaſant blackiſh Red when ripe : 'Tis a tolerable good Bearer : Ripe *July* 20, 1727. South Wall.

THE *Mogule Plumb*, or *White Bonum Magnum*, (*Fig. VI. Plate XXV.*) alſo called the *White Holland*, or *Dutch Plumb*, an excellent Fruit for Baking or Preſerving ; when 'tis ripe its Pulp is very yellow within, as well as without, and cover'd with a fine white Flew : The Pulp ſticks to the Stone, hath a fine ſharp Acid when ripe ; 'tis a very good Bearer, and a beautiful Fruit : Ripe *Auguſt* 20, 1727. South-Eaſt Wall.

THE *Wentworth Plumb*, *Fig. IV. Plate XXV.*) ſo called from its being firſt planted in the Gardens of the Right Honourable the Earl of *Strafford* at *Twickenham* : Its Form, Colour, and Taſte, are exactly the ſame as the *Mogule* ; but as the *Mogule* cleaves to the Stone, this parts freely from it, and therefore it is looked upon to be the very beſt Plumb in *England* for Preſerving ; 'tis a good Bearer : Ripe *Auguſt* 20, 1727. South-Eaſt Wall.

THE *Imperatrice*, (*Fig. III. Plate XXV.* called by ſome the late *Violet*, or *Blue Perdrigon*) is a moſt delicious Fruit when 'tis ſuffer'd to hang on the Tree until 'tis a little ſhrivel'd ; its Pulp is a greeniſh Yellow within, vaſtly rich, with a fine ſugar'd Acid, and cleaves to the Stone : The Out-ſide is a blackiſh Red, cover'd with a fine Violet Flew ; 'tis a good Bearer : Ripe *September* 10, 1727. South-Eaſt Wall.

THE

THE *White Pear Plumb* (*Fig.* I. *Plate* XXV.) is another excellent Plumb for Preſerving, and the Table alſo, when fully ripe, its Juice being very agreeably mix'd with a pleaſant ſugar'd Acidity; the Pulp is a yellowiſh Green, cover'd with a fine light Flew; 'tis a good Bearer, and ripens late, *September* 10, 1727. North Wall.

N. B. *THE* Black Pear Plumb, (Fig. II.) *is an excellent Fruit for Baking and Preſerving; and altho' 'tis a very common Plumb, yet it muſt not therefore be deſpis'd, as wiſe Floriſts do good Flowers, when they become common in every Man's Garden beſides their own.*

An

An Alphabetical TABLE *of the preceding* Plumbs, *exhibiting their Times of* Ripening, *and different* Aſpects.

	Ripe.	*Aſpects.*
CHESTON —— ——	*July* 15,	Weſt Wall.
CATHERINE —— —	*Aug.* 12,	South-Eaſt.
DRAB-D'OR ———	*July* 20,	Weſt.
DIAPRE *Yellow* ——	*Aug,* 6,	Eaſt.
DAMOSINE *Black* ——	*July* 25,	Eaſt.
FOTHERINGHAM ——	*July* 14,	South-Eaſt.
GREEN GAGE ———	*July* 30,	Eaſt.
JEAN-HATIVE ———	*June* 9,	South-Eaſt.
IMPERIAL —— ——	*July* 15,	North-Weſt.
IMPERATRICE — ——	*Sept.* 10,	South-Eaſt.
MIRABLE *White* ——	*July* 20,	Standard.
MOROCCO — ——	*July* 14,	Eaſt.
MAITRE CLAUDE ——	*July* 23,	South-Eaſt.
MATCHLESS *White* —	*July* 24,	Weſt.
MOGULL ——	*Aug.* 20,	South-Eaſt.
ORLEANS — ——	*July* 10,	South-Eaſt.
PRIMORDIAN *Blue* —	*July* 1,	South-Eaſt.
PERDRIGON *Blue* ——	*July* 20,	Weſt.
PERDRIGON *White* ——	*Aug.* 1,	Weſt.
PERDRIGON *Muſk* ——	*July* 20,	Weſt.
PERDRIGON *Cerney* —	*July* 30,	Weſt.
QUEEN MOTHER ——	*Aug.* 12,	South.
ROYAL — ——	*July* 20,	South-Eaſt.
REINE CLAUDIA — —	*Aug.* 8,	Weſt.
TURKEY — ———	*July* 20,	South.
VIOLET — ———	*July* 15,	Weſt.
WENTWORTH ———	*Aug.* 20,	South-Eaſt.
WHITE PEAR PLUMB —	*Aug.* 30,	North.

CHAP. XVIII.

Of PEACHES *and* NECTARINES.

ALTHO' Nectarines differ from Peaches in their Colour, Smoothneſs of Skin and Taſte, yet their Propagation and Manner of Pruning, *&c.* are the ſame; ſo that when I am treating on the ordering of Peach-Trees, the ſame is to be underſtood of Nectarine Trees.

ALL Kinds of Peaches produce their Fruits upon the laſt Year's Wood, as A B, *Fig.* VII. *Plate* II and III. which never bears again, but produce from Shoots or Fiddes yearly afterwards, as C D E, on B F the two Years Wood; and the like of the ſmall Shoots D E F G, (*Fig.* X.) produced from the two Years Wood X W of the *Catherine* Peach: And 'tis therefore that we muſt always, during the Summer Seaſon, preſerve a ſufficient Quantity of new Wood to ſucceed the old.

THE Bloſſom-Buds of Peaches *l l l, &c.* being very plump, and larger than the Leaf-Buds *i i i, &c.* are eaſily diſtinguiſh'd from them, when we come to make Choice thereof at the Time of Pruning.

IT appears by the Shoots of the Apricot (*Fig.* III. *Plate* VIII, IX.) that the Bloſſoms at the extreme Parts are much weaker than thoſe at B: For as the extreme Part A was produced when the Vigour of the Sap was over, and the Seaſon colder than in the Spring, they are therefore very weak and immature; and 'tis for this Reaſon that the Ends of young Branches, which are produc'd late in the Spring, are prun'd.

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BUT ſince that there is not ſo much as one Leaf-Bud between B and A, therefore that at A, the extreme Bud, muſt not be pruned, becauſe there is no other Leaf-Bud to attract Nouriſhment to the Bloſſoms, and perſpire away the Crudities thereof; for was that Shoot to have the Leaf-Bud A prun'd off, the whole Branch would periſh when the Fruits are ripen'd, if any happen to grow thereon.

AND 'tis the very ſame in the Branches of Peach-Trees: for was the Branch A B, *Fig.* VI. *Plate* VIII and IX. to have its leading Bud A prun'd away, it would die as aforeſaid; but if the laſt Year's Shoot A B, *Fig.* VII. *Plate* II and III. were to be prun'd at the Bud *i*, it would not die, becauſe it is a Leaf-Bud, and of the ſame Nature as the extreme Bud *h*.

THERE are many Kinds of Peaches which produce Leaf-Buds near tot heir Bloſſom Buds, as B *f f f*, &c. *Fig.* VI. and *n n n*, &c. *Fig.* VIII. *Plate* II and III. which is a very great Advantage to the Fruits, in ſtrongly attracting Nouriſhment to them, as well as freely perſpiring away the Crudities thereof.

THE ~~like is alſo exhibited at~~ A E F B, *Fig.* IV. *Plate* VIII and IX. and B C D, &c. *Fig.* I. *Plate* XI. the laſt Year's Shoot of the *Albemarle Peach*, and 'tis always ſeen that thoſe Kinds of Peaches are the beſt taſted and moſt fruitful.

PEACHES have a very great and beautiful Difference in the Magnitudes and Colours of their Bloſſoms: The earlieſt being for the generality very large and beautiful, as the old *Newington*, *Fig.* IX. *Plate* II, III. and *Fig.* VI. *Plate* VIII, IX. and the *Albemarle Peach*, &c. *Fig.* VI. *Plate* II, III. And the late Kinds very ſmall, but yet very beautiful in their Kinds, as the *Catherine*, *Fig.* VIII. *Plate* II, III. the late *Admirable*, &c. *Fig.* V. *Plate* VIII, IX.

THE Goodneſs of Peaches depends very much upon their Quantity, for they are never worth any thing when left very thick upon the Trees, which is always done by a covetous Temper, which makes good the old Proverb, *All covet, All loſe.*

THIS

THIS very Year I number'd 103 Dozen of *Early*, or *Smith*'s *Newington Peaches*, on one ſingle Tree, in the Garden of a very reputed Gardener for the Management of Fruits, which being in general very ſmall, and inſipid taſted, were ſold at Market for Six-pence *per* Dozen: Now had Nature been kindly treated with, and burden'd with 10 or 15 Dozen only, inſtead of ſo many, ſhe would have been able to have produc'd them with their true Taſtes, and all other Qualities, in the greateſt Perfection.

I HAVING already laid down the Diſtances that the Branches ſhould be laid from each other, (*viz.* the Length of their Leaves) it only remains to ſhew their Diſtances that they ſhould ripen at upon the Branches, which is exhibited by *Fig.* II. *Plate* XXVI.

THUS far by Way of Preliminary; now we'll proceed to the Fruits themſelves.

THE firſt ripe Peach is the *White Nutmeg*, or *Early White Peach*, (*Fig.* I. *Plate* XXVII.) its Juice is ſweet and ſomething musky, when well ripen'd; its Colour is a very light, or rather a pale Green; 'tis a great Bearer: Ripe *June* 15, 1727. *South* Wall.

THERE is alſo another Sort of *Nutmeg Peach*, which is called the *Red Nutmeg*, or *Troy Peach*, which ripens ſoon after the *White Nutmeg*, and is a great Bearer alſo: Its Fruits are generally ſomething larger than the other, but in Taſte much the ſame, having a beautiful, broken, Vermilion red Colour next the Sun.

THE *Ann Peach*, *Fig.* II. *Plate* XXVII.) is a ſmall, but very good Peach, ſucceeding the Nutmegs; its Pulp is very pleaſant, and comes from the Stone; 'tis a good Bearer: Ripe *July* 10, 1727. Eaſt Wall.

THE *Red Magdalene*, (*Fig.* V. *Plate* XXVII.) is a good Fruit, and full of a rich ſugar'd Juice: It comes from the Stone, which is very red, as is alſo the Inſide of the Pulp next about it; next the Sun 'tis a blackiſh Red, which loſes itſelf in a faint Green; 'tis a good Bearer: Ripe *July* 20. South Wall.

THE *White Magdalane*, (*Fig.* VI. *Plate* XXVII.) comes from the Stone, which is of a light Cinamon Colour. The Pulp next to it is very white, excepting that Part of it which is next the Rib of the Stone, which is a little ting'd with Red: The Pulp is of a great Subſtance, full of a fine ſugar'd winy Juice, and melting; 'tis a good Bearer: Ripe *July* 30. Weſt Wall.

THE *Tuteon de Venice* (*Fig.* IV. *Plate* XXVII.) is commonly taken for the *White Magdalene*, being very like it: It comes from the Stone which is a Cinamon Colour, but the Pulp next about it is a light Green, wherein it only differs from the *White Magdalene*; 'tis a very good Fruit, and a great Bearer: Ripe *July* 20. South-Weſt Wall.

N. B. *BOTH theſe laſt Peaches have very little Red in them next the Sun, being chiefly a pale Green.*

THE *Rozanna*, (*Fig.* III. *Plate* XXVII.) comes from the Stone, which is a brown Colour; the Pulp next about it is very Green: Its Juice is very rich, and therefore in great Eſteem among the Curious; next the Sun 'tis very Red, which loſes it ſelf in a faint Green; 'tis a great Bearer: Ripe *July* 20. South-Weſt Wall.

THE *Smith's Newington*, (*Fig.* I. *Plate* XXVIII.) alſo called the *Early Newington*, is a very good Fruit, and great Bearer; its Pulp is firm and very like the *Old Newington*, but, in my Opinion, much ſhort of that moſt delicate Flavour which the *Old Newington* abounds with: It cloſely adheres to the Stone, and is of a beautiful Red next the Sun: Ripe *July* 25, 1727. South-Eaſt Wall.

THE *Minion*, (*Fig.* II. *Plate* XXVIII.) its Pulp abounds with a fine rich ſugar'd Juice, and adheres cloſe to the Stone, which is a dark Red; as is alſo the Outſide next the Sun: The Pulp is very firm, and full of ſmall red Spots under the red Part of the Skin, when pared; 'tis an excellent Fruit, and a good Bearer: Ripe *July* 20. South Wall.

THE *Nobleſs*, (*Fig.* III. *Plate* XXVIII.) or *Nobleſt*, is an excellent Fruit, and truly worthy of its Name: It comes from the Stone, which

has a Peek riſing on its upper End, like that of the Fruit; 'tis of a brown Colour, deeply indented, with many Fibrous Parts of the Pulp cloſely adhering to it: The Pulp is melting, full of a delicious Juice, a little colour'd with Red next the Stone, and ſtreak'd with dark Streaks of Red without next the Sun; a good Bearer: Ripe *July* 20, 1727. South Wall.

THE *Montabon* (*Fig.* IV. *Plate* XXVIII.) is an excellent Fruit; its Pulp is tender and melting, and comes from the Stone, which is a brown Red: The Inſide of the Pulp next the Stone is mix'd with light Red, but the Outſide next the Sun is a deep Red; 'tis a very good Bearer: Ripe *July* 30. South Wall.

THE *Bordine*, (*Fig.* V. *Plate* XXVIII.) is a very valuable Fruit; its Pulp comes from the Stone, of a fine vinous Taſte, and of a lovely Red next the Stone, which is of a dark Cinamon Colour, to which ſome few Fibres of the Pulp adheres: Next the Sun a ſudden Red, which loſes it ſelf with ſmall Spots of Red in a yellow Green; 'tis a good Bearer: Ripe *July* 30, 1727. Weſt Wall.

THE *Newington Nectorine*, (*Fig.* I. *Plate* XXIX.) its Pulp cloſely adheres to the Stone, which is very red, full of an excellent rich Juice when perfectly ripe, which is known by its hanging until it is a little ſhrivel'd; its outward Colour next the Sun is very red, which loſes it ſelf in a ſtrong Yellow; 'tis a good Bearer: Ripe *July* 30, 1727. South Wall.

THE *Roman Nectorine*, (*Fig.* II. *Plate* XXIX.) its Pulp cloſely adheres to the Stone, which is very red, as alſo its outward Skin next the Sun, which is loſt in a fine deep Yellow: When 'tis well ripen'd 'tis an excellent Fruit, full of a fine delicious ſugar'd Juice; 'tis a good Bearer: Ripe *July* 30. South Wall.

THE *Elruge Nectorine*, (*Fig.* III. *Plate* XXIX.) has a ſoft melting Pulp, comes from the Stone, and very red next about it; but the Stone is a brown Red: The Out-skin is a very black Red next the Sun, which loſes it ſelf in a yellowiſh Green next the Wall; 'tis a very good Bearer: Ripe *July* 30, 1727. South Wall.

THE

THE *Italian*, or *Brunion Nectorine*, (*Fig.* IV. *Plate* XXIX.) is a moſt excellent, rich, vinous-flavour'd Fruit, when well ripen'd; its Pulp is very firm, and cleaves to the Stone, which is very red, as alſo is the out Part next the Sun, which loſes it ſelf in a pleaſant Yellow: Ripe *Auguſt* 6, 1727. South-Weſt Wall.

THE *Golden Nectorine*, (called by ſome, tho' falſly, the *Temple Nectorine*, *Fig.* V.) its Pulp adheres very cloſe to the Stone, which is of a very light Brown, or Snuff Colour: 'Tis very yellow within as well as without, excepting next the Sun, where 'tis intermix'd with Spots and Streaks of Red; 'tis a fine rich flavour'd Fruit when well ripen'd, and therefore it ſhould not be gather'd until 'tis ſomething ſhrivel'd; 'tis a good Bearer: Ripe *Auguſt* 20. Weſt Wall.

THE *Early Admirable*, (*Fig.* II. *Plate* XXX.) comes from the Stone, which is of a Cinamon Colour; the Pulp next to it is white, with ſome few Tinctures of Red: it may be juſtly called *Admirable* in regard to its fine delicious melting Pulp: The out Part next the Sun is ſtreaked with pleaſant Red, which loſes it ſelf in a light Yellow; 'tis a good Bearer. Ripe *Auguſt* 3, 1727. South-Eaſt Wall.

THE *Temple Nectarine* (*Fig.* I. *Plate* XXX.) comes from the Stone, which is a Cinamon Colour; the Pulp is white next the Stone, melting, and full of a fine rich Juice, ſomething acid. Next the Sun 'tis of a Carnation Red, which is loſt in a yellowiſh Green; 'tis a good Bearer: Ripe *September* 4. Weſt Wall.

THE *Paſs-Violet*, (*Fig.* III. *Plate* XXX.) or *Double Troy Peach*; its Pulp comes from the Stone, being very red next about it: its Taſte is very like the *Red Nutmeg*, but its outward Coat is of an Orange Colour, faintly dotted with browniſh Red: Ripe *Auguſt* 6, 1727. Eaſt Wall.

THE *Nivet* (*Fig.* IV. *Plate* XXX.) comes from the Stone, which is very red, as alſo the Pulp next about it, but within 'tis very yellow: 'tis a fine rich ſugar'd melting Fruit, of a dark Red next the Sun, which

is

is loſt in a faint Yellow; 'tis a good Bearer: Ripe *Auguſt* 8, 1727. Eaſt Wall.

THE *Purple Alberge*, (*Fig.* V. *Plate* XXX.) ſo called, being cover'd with a Coat of Purple about the Bloſſom-End, which loſes it ſelf in a dark Red, blended with Yellow; its Pulp is yellow within, and very red about the Stone, from which it parts: 'Tis a moſt delicious rich juicy Fruit, and a good Bearer: Ripe *Auguſt* 3. Eaſt Wall.

THE *Violet-Hative Fig.* VI. *Plate* XXX.) comes from the Stone, which is of a lively Red on the Edges, but on the Bulge a Chocolate Colour: Next to the Sun 'tis a very dark Red, which is ſoftned off in a ſofter Red, which at length is loſt with ſmall red Spots, in a Ground blended with Red and Yellow: Its Juice is the moſt delicious I ever taſted, it far excels the *Old Newington*, notwithſtanding that is ſo excellent a Fruit: Ripe *Auguſt* 8. Eaſt Wall.

THE *Old Newington* (*Fig.* I. *Plate* XXXI.) its Pulp cloſely adheres to the Stone, which is of a lively Red, and very full of a moſt delicious rich Juice; its Pulp is very firm when ripe, and of a beautiful Red next the Sun, which loſes it ſelf in yellowiſh Green when ripe: It is but an indifferent Bearer when nail'd in thick with Wood, but the reverſe, (as before noted) when the Branches are laid about nine Inches apart: Ripe *Auguſt* 6. South Wall.

THE *Albemarle* (*Fig.* II. *Plate* XXXI.) comes from the Stone, which is of a browniſh Red; but the Pulp next the Stone is a fine Vermilion Red, and of a very great Thickneſs; its Pulp is melting, and full of a very rich vinous Juice: Next the Sun 'tis very dark Red, which is ſoftned off, and loſt in a yellowiſh Green, ſet very thick with ſmall red Spots; 'tis a good Bearer: Ripe *Auguſt* 8. South Wall.

THE *Brook's Peach*, ſo called from the Lord *Brooks*, who firſt propagated it in his Gardens at *Twickenham* in *Middleſex*, (*Fig.* III. *Plate* XXXI.) Next to the Sun 'tis of a fine Vermilion Red, which loſes it ſelf with ſmall red Spots in a yellowiſh Green. The Pulp is of very great Subſtance, and comes from the Stone, which is of a Cinamon Colour; the inward Part of the Pulp next about the Stone is very white:

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white; its Juice is very delicious, and the Pulp melts in eating; 'tis a very good Bearer: Ripe *Auguſt* 8. Weſt Wall.

THE *Hemskirk*, (*Fig.* IV. *Plate* XXXI.) is a moſt beautiful delicious Fruit; the Pulp has a ſmall Adherence to the Stone, which is of a dark red Colour, as alſo the Pulp about it: Its Outſide next the Sun is a very deep or blackiſh Red, which goes off gradually towards the back Part, which is ſet very thick with ſmall red Spots; 'tis a very fleſhy Fruit, and a good Bearer: Ripe *Auguſt* 8, 1727. South-Eaſt Wall.

THE *Bellows*, (*Fig.* V. *Plate* XXXI.) is a very great Bearer, and an excellent good Fruit: Its Pulp comes from the Stone, which is a light Brown, and the Pulp next about it very white, with a Tincture of Red next the Cleft or Edge of the Stone: Its Skin, which does freely peel off, is of a pleaſant Red next the Bloſſom-End, and loſes it ſelf with ſmall red Specks in a yellowiſh Green: Ripe *Auguſt* 1. Weſt Wall.

THE *Swalze* or *Swolze*, (*Fig.* I. *Plate* XXXII.) is ſaid to be firſt brought to *England* by the Lord *Peterborough*; its Pulp comes from the Stone, which is very red, as well as the Pulp next about it, and 'tis commonly larger than in the Figure: Next the Sun 'tis a very deep Red, which is ſoftned off with ſmall red Spots in a faint Yellow; its Juice is very rich, and 'tis a good Bearer: Ripe *Auguſt* 1. Weſt Wall.

THE *Pavy Royal* (*Fig.* II. *Plate* XXXII.) comes from the Stone, which is of a Cinamon Colour; its Pulp is very red about the Stone, containing a Juice equal to the beſt Peach or Pavy in the World: Its Outſide is a black Red, beautifully ſtrip'd with a fine Vermilion Red, which is ſoftned off in a yellowiſh Green; 'tis a very good Bearer, and were it to be nail'd in very thin, it would, without Diſpute, be the very beſt Peach in *England*: Ripe *Auguſt* 15, 1727. Eaſt Wall.

THE *Porpree* (*Fig.* III. *Plate* XXXII.) comes from the Stone, which is both red and brown: The Pulp next about the Stone is very red, and, if eaten before quite ripe, has very much of the *Old Newington* Taſte in it; but the Juice is much finer when fully ripen'd: Ripe *Auguſt* 24, 1727. Eaſt Wall.

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THE *Rickets Peach*, (*Fig.* IV. *Plate* XXXII.) ſo called in regard to its being firſt propagated by Mr. *Rickets*, late a Nurſery-man at *Hoxton*: It comes from the Stone, which is of a Cinamon Colour, with a Tinge of Red in the Clefts; the Pulp next the Stone is of a beautiful Red, which loſes it ſelf in an almoſt tranſparent white Pulp, which is melting and very full of a very ſweet delicious Juice: its Outſide next the Sun is of a very pleaſant Vermilion Red, which is ſoftned off with very ſmall Spots in a light yellow Ground; 'tis a good Bearer: Ripe *Auguſt* 25, 1727. South-Weſt Wall.

THE *Late Admirable* (*Fig.* V. *Plate* XXXII.) comes from the Stone, which is a Cinamon Colour, to which adheres many Fibrous Particles of the Pulp: Next the Stone it is a very deep Red, melting, and full of an excellent rich Juice; the Out-skin is of a pleaſant Red next the Sun, which is ſoftned off with very minute Spots, into a pleaſant Yellow; 'tis a very good Bearer: Ripe *Auguſt* 24, 1727. South Wall.

THE *Bell Chevreuſe*, commonly called *Cheveruſe*, (*Fig.* I. *Plate* XXXIII.) comes from the Stone, which is of a light brown Colour; and next about it the Pulp is of a pleaſant Vermilion Red, which is full of a ſoft ſugar'd Juice: *The Out-skin* next the Sun is a ſtrong Red, that is ſoftned off in a light Green; 'tis a good Bearer: Ripe *Auguſt* 24, 1727. South-Weſt Wall.

THE *Burdock* (*Fig.* II. *Plate* XXXIII.) its Pulp adheres to the Stone, which is of a Cinamon Colour; 'tis of a very great Subſtance, very firm, and full of a moſt delicious rich Juice: Its Outſide next the Sun is a beautiful Vermilion Red, which is ſoftened off with ſmall red Spots in a pleaſant yellow Green; 'tis a good Bearer, and as good a Fruit as any of the Kind: Ripe *Auguſt* 30, 1727. South Wall.

THE *Rumbolion*, or *Rumbulion*, (*Fig.* III. *Plate* XXXIII.) comes from the Stone, which is of a Cinamon Colour; the Pulp next about it is of a light Red, and its inward Pulp of a fine Yellow; 'tis full of a fine vinous rich Juice, and is an excellent Fruit: The Outſide next the Sun is a fine pleaſant Red, which is ſoftned into a light Yellow; 'tis a good Bearer: Ripe *September* 20. Weſt Wall.

THE *Italian Peach* (*Fig.* V. *Plate* XXXIII.) comes from the Stone, which is very like the Stone of the *Rickets Peach* in its Colour; its Pulp next about the Stone is a deep Red, and next the Sun a blackiſh Red, cover'd with a very thick Cotton or Down, which is ſoftned off with ſmall red Spots in a light yellow Ground: 'Tis melting, and full of very rich ſugar'd Juice; the Pulp is of very great Subſtance, and in brief it is not inferior to the very beſt Peach growing, when planted againſt a South-Eaſt Aſpect in a warm Soil; 'tis a good Bearer: Ripe *September* 5, 1727. South-Eaſt Wall.

THE *Malacotune* (*Fig.* IV. *Plate* XXXIII.) its Pulp adheres to the Stone, which is a pleaſant Red: The Pulp is very firm, and of a fine rich Flavour, not unlike that of the *Old Newington*: Next the Sun 'tis a deep Vermilion Red, which is ſoftned off with beautiful Flakes or ſmall Patches of the ſame, in a yellowiſh Green; 'tis a good Bearer: Ripe *September* 10, 1727. South Wall.

THE *Catherine*, (*Fig.* VI. *Plate* XXXIII.) tho' a late, yet an excellent fine rich-flavour'd Fruit, when there is but a reaſonable Quantity on the Tree, the Seaſon kind, and planted in a warm moiſt Soil, and South-Eaſt Aſpect; 'tis a great Bearer: Ripe *September* 15, 1727. South Wall.

THE *Bloody Peach*, *Fig.* VI. *Plate* LXXII.) ſo called from its Pulp being entirely red within; it comes from the Stone, which is a black or rather a Purple Red, as is alſo the Pulp next about it: The Outſide is, in Conſideration of its late Ripening, well defended from the Injuries of Heat and Cold, by a very great Covering of a Cottony or Downey Subſtance, under which is a very black or Purple Red: 'Tis a very great Bearer, and, conſidering its late Seaſon of Ripening, which is *October*, 'tis not a bad Fruit; and therefore every Garden, even for Curioſity's Sake only, ſhould not be without one Tree thereof at the leaſt.

An

An Alphabetical TABLE *of the preceding* Peaches, *exhibiting their Times of* Ripening, *and different* Aſpects.

	Ripe.	*Aſpects.*
Ann Peach ——	*July* 10,	Eaſt Wall.
Albermarle ——	*Aug.* 8,	South.
Admirable *Early* —	*Aug.* 10,	South-Eaſt.
Admirable *Late* ——	*Aug.* 24,	South.
Alberge Purple ——	*Aug.* 3,	Eaſt.
Brookes Peach ——	*Aug.* 8,	Weſt.
Bellows ——	*Aug.* 1,	Weſt.
Bordine ——	*July* 30,	Weſt.
Bell-Cheveruse ——	*Aug.* 24,	South-Weſt.
Bloody Peach ——	*Oct.* 10,	Eaſt.
* Burdock ——	*Aug.* 30,	South.
Catherine ——	*Sept.* 15,	South.
Elruge Nectorine —	*July* 30,	South.
* Golden Nectorine	*Aug.* 20,	Weſt.
Hemskirk — —	*Aug.* 8,	South-Eaſt.
Italian Peach ——	*Sept.* 10,	South-Eaſt.
* Italian Nectorine	*Aug.* 6,	South-Weſt.
Magdalene *White* —	*July* 30,	Weſt.
Magdalene *Red* ——	*July* 20,	South.
Minion ——	*July* 20,	South.
Montabon ——	*July* 30,	South.
* Malacotune ——	*Sept.* 10,	South.
Nivet — ——	*Aug.* 8,	Eaſt.
* Newington Nect.—	*July* 30,	South.
* Newington *Smith's* —	*July* 25,	South-Eaſt.
* Newington *Old* —	*Aug.* 6,	South.
Nutmeg *White* ——	*June* 15,	South.
Nutmeg *Red* ——	*June* 25,	South.
Nobless — ——	*July* 20,	South.
Porpree — ——	*Aug.* 24,	Eaſt.
Pavy Royal ——	*Aug.* 15,	Eaſt.

	Ripe.	*Aspects.*
PASS-VIOLET ——	*Aug.* 6,	East.
RUMBULLION ——	*Sept.* 20,	West.
ROZANNA —— ——	*July* 20,	South-West.
RICKETS — —	*Aug.* 25,	West.
* ROMAN NECTORINE —	*July* 30,	South.
SWALZE —— ——	*Aug.* 1,	West.
TEMPLE NECTORINE —	*Sept.* 4,	West.
TUTEON DE VENICE —	*July* 20,	South.
VIOLET-HATIVE ——	*Aug.* 8,	East.

N. B. *THOSE Fruits whose Pulps adhere to their Stones are called Pavies, which in this Table are distinguished by a Star * placed against them: The others without the aforesaid Character are called Peaches, because their Pulps are melting, and come freely from their Stones.*

CHAP. XIX.

Of GRAPES, *and their* ORDERING.

VINES do not directly produce their Bunches of Fruits from the firſt four Buds of the laſt Year's Shoots, as many imagine, but from new Branches or Shoots, which are produc'd from thoſe Buds or Joints, whoſe third, fourth, and fifth Joints, produce the Fruits we receive.

IT is a common Method amongſt moſt Gardeners, to prune the laſt Year's Shoots of Vines to four Buds, (as *Fig.* I. *Plate* LIV.) imagining that their Fruits are produc'd as aforeſaid: And indeed where there is Plenty of Wood the Method is not amiſs, when Vines are growing againſt a Wall; but in Vineyards 'tis entirely wrong, if the Vines are in a good State of Health: For when the Seaſon has produc'd Branches that are truly healthful and mature, they may be prun'd to three Feet each in Length; and if afterwards, in the Spring, they are inclin'd to an almoſt horizontal Poſition, at proper Diſtances from each other, ſo as to have a free Perſpiration, every Bud would produce a Shoot, and each Shoot two or three Bunches of Grapes; ſo that inſtead of having from one Shoot, after the common Method of Pruning, to four Joints, but three or four Bunches only, we may have ten or twelve, and each equally as good; and conſequently a very few Plants will produce a great Quantity of Fruits. If any doubt or diſpute the Truth hereof, let them but go and view the Vines now growing in the Garden of Mr. *Warner* at *Rotherhith*, which, by his judicious Management after the Manner before deſcrib'd, annually produce great Quantities of the *Burgundy*, and, if I miſtake not, the Claret-Grape alſo, with which he

makes

makes chearful Nectar for the Accommodation of his Friends. But ſince that our Climate and Soil, in many Parts of *England*, is not natural to the Vine, ſo as to produce our beſt Sorts of Grapes in open Vineyards, we muſt therefore plant them againſt our beſt aſpected Walls, that their Juices may be ripen'd in as good Perfection as the Seaſon is able to produce.

THE moſt natural Soils for Vines, are rich, dry, light, ſandy, rocky, or chalky Lands, inclinable to a Gravel : For as they don't imbibe and perſpire ſo much as Apples, Pears, *&c.* which delight in moiſt ſtiff Lands, therefore leſs Moiſture bears a nearer Proportion to their Nature ; for there's nothing deſtroys Vines ſooner than an over-and-above Quantity of Moiſture.

FOR tho' the Vine bleeds moſt freely in its bleeding Seaſon, and produces many long ſucculent Branches, and great Plenty of very juicy Fruits ; yet from the third Experiment of Mr. *Hales*'s *Vegetable Staticks*, *p.* 17. it is plain, that the Vine is not a great Perſpirer, and therefore thrives beſt in dry Soils.

THIS is manifeſted by young Vines, which, when planted exactly under the Drops of Houſes, inſtantly periſh.

THE beſt Seaſon for Pruning the Vine, is the End of *September* ; for as the Seaſon is then warm, the ſeveral Orifices are immediately healed, ſo that in the following Spring, when the Sap begins to riſe, in the bleeding Seaſon, it cannot be diminiſh'd thereby, and conſequently every Branch is better able to produce good Fruits, than when prun'd in an improper Seaſon, and greatly weaken'd by the Loſs of Sap.

THE cloſer or nearer together the Buds of young Shoots are, the more fruitful ; and therefore we ſhould obſerve, at the Time of Pruning, to lay in ſuch Branches, whoſe Lengths need not be conſtrain'd to four Joints, as is common, but in Proportion to their Length or Thickneſs. A very ſtrong Branch may be laid in at two Feet and a half in Length, others leſs ſtronger, two Feet, eighteen Inches, a Foot, *&c.*

THE neareſt Diſtance that the Branches of Vines ſhould be laid at, ſhould be never leſs than one Foot, for if they have not abundance of Air to perſpire in, they will not thrive. All thoſe Kinds whoſe Leaves are very large, as the *Raiſin Grape*, (*Plate* XLIII, XLIV.) ſhould, for the ſame Reaſon, be laid at greater Diſtances.

THE ſecond, third, fourth, *&c.* Years Wood of the Vine, being, after the firſt Year, for ever barren of themſelves of producing any more Fruits; we muſt therefore be always bringing up young Wood from the Bottom, and other Parts of the Vine, to ſucceed the preceding. But however, altho' that the Branches of Vines do not of themſelves produce Fruits after the firſt Year, yet Nature has been ſo careful as to make a Proviſion otherwiſe, which is at their ſeveral Joints; from whence every Year ſmall Branches are produced, (called by the *French Courſons*) which oftentimes produce good Fruits, as well as young Wood alſo, when 'tis wanted to ſucceed that which is by Time wholly barren, being pruned at the ſecond Bud, from the old Wood.

BUT we muſt not ſuffer any of theſe Kinds of Shoots to grow forward from the Wall; and therefore thoſe for our Purpoſe are ſuch as in their natural Growth, lie flat or parallel thereto.

WHEN we prune off the End of a Vine-Branch, we ſhould cut it off ſloping, behind the Eye, and about two Inches above the ſame.

ABOUT the Beginning of *May* we ſhould look over our Vines, and nail cloſe to the Wall all the ſeveral young Shoots, which are furniſh'd with Bunches of Fruits which then appear, as *Fig.* II. *Plate* X. that, as their Leaves augment their Magnitudes, and the Heat of the Summer advances, they may be protected during their Growth, from the Injuries of Heat and Cold: For thoſe Grapes that are ſuffer'd to grow on Branches about ſix, eight, or ten Inches from the Wall, and thereby fully expoſed to the Sun, and drying Winds, have their tender Sap-Veſſels ſoon dried up, and are therefore never worth a Farthing.

TOWARDS the End of *May*, we ſhould have Recourſe to our Fruits, ſtopping their Branches at the third or fourth Joint beyond the laſt Bunch, and not at the Joint next above it, as exhibited in *Plate* XXXIV. which is commonly practis'd by unskilful Gardeners, by their want of knowing the attractive Power of Leaves, and their Uſe in Perſpiration: For when the Branches of Vines are thus pruned, how is it poſſible that the Fruits can be ſo ſtrongly nouriſh'd, when they are depriv'd of proper Inſtruments, which Nature had provided to furniſh them with; ſo that inſtead of helping the Fruits, as they imagine, (like moſt of all their other Operations) they depauperate, and render them, at beſt, very inſipid and taſteleſs; nay, they very often periſh, and then forſooth the Coxcombs imagine that their Fruits are deſtroy'd by a Blight.

WHEN theſe two Operations are performing, we ſhould diſplace all forward Branches, and others that appear uſeleſs, which, if ſuffer'd to grow, never fail of injuring the Fruits, and the other Branches.

TOWARDS the latter End of *July*, the ſmall *July* Grape, or early ~~Grape of~~ *Zantoyne*, *Fig.* II. *Plate* XLVII. begins to ripen, at which time we ſhould by Degrees acquaint thoſe Fruits with more of the Sun, to ripen their Juices. This Grape is a great Bearer, and, being very ſweet, and its Skin thin, is generally deſtroy'd by Waſps, if Care is not taken to deſtroy them, either by Vials of ſugar'd Water, hung up to drown themſelves in, or rather their Neſts deſtroy'd in the Night with a Fuzze of Gunpowder, fir'd and ſtopp'd into the Entrances to their Neſts, which ſuffocates them in general, ſo that afterwards you may dig down, and burn them in general: 'Tis of a fine Indigo Blue, full of a moſt delicious Juice: Ripe *July* 20. South Wall.

BUT ſince that the other Kinds of Grapes do not ripen with this Kind, we muſt therefore let ſome of them remain longer before we expoſe them to the Sun, that they may continue longer with us, inſtead of being in general ripe together.

THE other Kinds of Grapes worth our Notice, are the *White Sweet Water*, (*Plate* L.) which is a fine large white Grape; its Skin is very thin, and therefore ſubject to Waſps: 'Tis an excellent good

Grape, and generally very large, and tranſparent when ripe, but the Bunches are very thinly ſet therewith: Ripe *Auguſt* 10. South Wall.

THE *White Muſcadine*, (*Plate XXXV.*) is one of the beſt Kind of Grapes for ripening in *England*: 'Tis a very great Bearer, and, when skilfully order'd, an excellent Fruit; when 'tis near ripe, 'tis tranſparent, and when fit to gather, ſomething ting'd with Amber next the Sun: Ripe *Auguſt* 15.

THERE is another Sort of *White Muſcadine*, which is very thinly ſet on the Bunches, but the Grapes are very large, and moſt deliciouſly ſweet when ripe, and therefore called the *Royal Muſcadine*.

THE *Black Sweet Water*, (*Plate LI.*) ſo called from its Wood, which is of a blackiſh Colour, and the Stalks of the Bunches a blackiſh Red, but the Grapes are white, cover'd with a fine white Flew, and of an oval Form; 'tis alſo called the *Morellian Grape*: Before 'tis ripe the Juice is very ſowre, and the Skin very tough; but when quite ripe 'tis very ſweet, but ſomething watery: Ripe *Auguſt* 20.

THE *Black Currant Grape* (*Fig. I. Plate XLVI.*) is a moſt delicious Fruit, ſomething oval in its Form: 'Tis a very good Bearer, and produces Fruit which is cover'd with a fine Violet Flew, very cloſe ſet in the Bunch: Ripe *Auguſt* 24. South-Eaſt Wall.

THE *Brick Grape*, (*Fig. I. Plate XXXIX.*) ſo called from its brown red Colour; 'tis a tolerable good Bearer, and a very pleaſant ſweet Fruit: Ripe *Auguſt* 24. South Wall.

THE *Parſley Grape*, or *Canada Grape*, (*Fig. I. Plate LXVIII.*) ſo called from the Country from which it came, and its Leaf being divided into many Parts, like unto the Parſley Leaf, and is therefore called the Parſley Grape: The Fruit is white, and in Form and Taſte like the *White Muſcadine*, but ſeldom ſo large: Ripe *Auguſt* 24. South Wall.

THE *Black Muſcadine*, (*Plate XXXVI.*) called by ſome, but improperly, the *Red Muſcadine*: When the Grapes are beginning to ripen, the Leaves are very beautifully mixt with Purple, Red, Yellow, *&c.*

'Tis

'Tis an excellent good Fruit when well ripen'd; its Colour a fine Indigo, cover'd with a pleaſant Violet Flew, and a tolerable good Bearer: Ripe *September* 20, 1727. South Wall.

THE *Cluſter Grape* (*Fig. II. Plate XLII.*) is a fine delicious Grape, of a ſtrong Indigo Colour, cover'd with a Violet Flew, and very cloſe ſet in the Bunch, and therefore called the *Cluſter Grape*. This Grape is called by ſome the *Black Currant Grape*, which ripens full three Weeks ſooner: 'Tis a very great Bearer, and ripe *September* 20, 1727. South Wall.

N. B. *THE Pulp being very ſweet, is often deſtroy'd by Waſps; and the only Method to preſerve them, is to put them in Oily Bags when nearly ripe.*

THE *White Frontinac* (*Plate XXXVII.*) is a moſt delicious, ſugar'd, musky, juicy Grape when well ripen'd, which does not always happen with us; however we muſt not therefore be without them: 'Tis a very great Bearer, and ripens, in a kind Seaſon, about the Middle of *September*.

THE *Black Frontinac* (*Plate XXXVIII.*) is a moſt excellent Fruit; its Juice is rather richer and fuller of Musk than the preceding, with a very rich Acidity: This, like other Grapes that are vulgarly called Black, is a dark Indigo, cover'd with a fine Violet Flew.

BESIDES theſe two Kinds of Frontinac's, there is another, whoſe Fruits are a yellowiſh White, ſtrip'd with a Copper Colour, and therefore called the *Grizel Frontinac*, which, when ripe, is equally as good as either of the preceding: Theſe two laſt ripen much about the ſame Time as the preceding, and are very good Bearers.

THE *Muſcat Grape* is a little like the *White Frontinac*, but a ſmaller Grape, and full of a fine delicious musky Juice; 'tis a very good Bearer: Ripe *September* 20. South Wall.

THE St. *Peter's Grape*, is a fine large black Grape, cover'd with a Violet Flew: Its Pulp is a little ting'd with red, very firm, with a moſt delicious rich Juice; 'tis a great Bearer: Ripe *Oct.* 10. Weſt Wall.

THE

THE *Hermitage Grape*, is a moſt delicious rich ſugar'd Grape, but the Skin is ſomething tough, and a little bitter: The Grapes are tranſparent when ripe, and ſpeck'd with brown next the Sun, which is alſo ting'd with a faint Orange Colour: Ripe *September* 20. South Wall.

THE *Claret Grape*, (*Fig.* II. *Plate* XLVII.) is a ſmall but beautiful Grape; its Leaves turn red with the Fruit, and make a very beautiful Appearance: The Fruit when ripe is a deep Indigo, cover'd with a fine Violet Flew, the Juice ſomething acid and a pleaſant Red; 'tis a very great Bearer: Ripe *September* 30.

THE *Burgundy Grape*, (*Fig.* I. *Plate* XLI.) is a black Grape, and very great Bearer; 'tis the only Grape that ripens well in the open Vineyard; its Leaves have a very great Cottony Down on their under Parts: The Grapes are very cloſe in the Bunch, and have a fine rich vinous Juice, but the Skin is a little tough: Ripe in the open Vineyard *September* 30.

THE *Raiſin Grape*, (*Plate* XLIII and XLIV.) is a moſt beautiful large white Grape, of a *fine rich Flavour*, and firm Pulp, when Seaſons are kind enough to ripen it; But even when Seaſons are unkind, 'tis an excellent Fruit for Baking, and therefore we ſhould not be without one or two of them, which ſhould be planted againſt the very beſt Aſpect we have.

THERE is another Kind of *Raiſin Grape*, which, when ripe, is a pleaſant Red, but it very ſeldom ripens in *England*.

An Alphabetical TABLE *of the preceding* Grapes, *exhibiting their Seaſons of* Ripening.

	Ripe.
BRICK GRAPE ——	*Aug.* 24.
BURGUNDY ——	*Sept.* 30.
CLARET — ——	*Sept.* 30.
CLUSTER — ——	*Sept.* 20.
CURRANT *Black* ——	*Aug.* 24.
FRONTINAC *White* — }	
FRONTINAC *Black* — }	*Sept.* 20.
FRONTINAC *Grizel* — }	
HERMITAGE ——	*Sept.* 30.
JULY GRAPE ——	*July* 20.
MUSCADINE *White* ——	*Aug.* 15.
MUSCADINE *Black* ——	*Sept.* 20.
MUSCADINE *Royal* ——	*Aug.* 25.
MUSCAT ——	*Sept.* 20.
PARSLEY ——	*Aug.* 24.
St. PETER'S —— —	*Oct.* 10.
SWEET WATER *White* —	*Aug.* 10.
SWEET WATER *Black* —	*Aug.* 20.
RAISIN *White*, when it ripens	*Oct.* 30.

N. B. *A FULL South Aſpect is the beſt for all Kinds of Grapes.*

CHAP. XX.

Of FIG-TREES.

THE ſeveral Kinds of Figs that are worth our cultivating in *England*, are the White, the Blue, and the Black.

FIGS in general produce double Crops every Year in their native Soils and Climates; but in *England* we have no other Kind but the *Short White Fig*, that produces and ripens two Crops every Year: The firſt Crop, (*Fig.* I. *Plate* LII.) is ripe about *July* 10. and the ſecond Crop, *Fig.* II. (which is always much leſs than the firſt) about *September* 10.

THE *Long Blue Fig* (*Fig.* II. *Plate* LIII.) is the next, which ripens about the Beginning of *Auguſt*, and at the ſame Time the *Tawney Fig*, (*Fig.* III.) is alſo ripe: They are both very good Fruits, but nothing comparable to the *Black Fig*, (*Fig.* I.) which is ripe *Auguſt* 26.

THE firſt Crop of Figs are always produced on the laſt Year's Wood, and are form'd at the ſame Time when the Shoots are.

IN *March* they are viſible, as *a a a*, *&c. Fig.* II. *Plate* LIV; but in *April* they are grown much larger, as A A, *Fig.* I. *Plate* X. being entirely deliver'd from their Womb within the Bark, and perfect in their Forms. And we may here again behold how carefully Nature attracts Nouriſhment to the young Fruit, by timely expanding the Leaves beyond them, which vigorouſly draw up Nouriſhment, whilſt all the Buds below are entirely naked thereof.

WHAT

WHAT we call the ſecond Crop of Figs, is actually the very firſt that are produced by the Shoot they grow on; and thoſe which we call the firſt Crop, are laſt produced.

THIS at firſt may appear to be a Paradox, but 'tis actually Matter of Fact, becauſe thoſe Figs which ripen in *September*, are always produced on the ſame Year's Wood, and neareſt to the laſt Year's Shoots: And as they are produced early in the Spring, when the Shoot is firſt form'd, they are therefore at their Maturity much ſooner than thoſe which are produc'd in the extreme Parts of the Shoots, when their Growths are nearly at an End, and ſcarcely viſible to the naked Eye.

THESE firſt produced Figs, of the white Kind, do frequently ripen with us, even in the open Air from either Walls or Pails; but the other Kinds very rarely do: Theſe laſt produced Fruits at the Ends of the Shoots, if not kill'd by the ſucceeding Winter, make the firſt Advance in the next Spring, and ripen very early; during which Time Nature is at work, producing new Shoots for new Productions; and ſo on during the Life of the Tree.

IT has been a Cuſtom among Gardeners, to keep Fig-Trees nail'd cloſe to the Wall, as other Fruit-Trees; but it appears, by many Experiments made, that 'tis entirely wrong, for Experience has prov'd, that thoſe which are ſuffer'd to grow about two Feet from the Wall, are not only the beſt Fruits, but are produc'd in much greater Abundance.

THE beſt Method of Ordering the Fig-Tree, is to nip off their leading Buds of the Branches, about the Middle of *June*, which will accelerate the Ripening of thoſe Fruits which are commonly called the ſecond Crop, and cauſe great Plenty of young Wood to ſhoot out all over the Trees, whereby the Whole becomes fruitful, becauſe the Fruits are always produced, as aforeſaid, from the laſt Year's Shoots. But when Fig-Trees are nail'd in at full Lengths, after the old and common Method, their Fruits are always produced at the extreme Parts of the Trees, and all their middle Parts are full of large barren Wood only:

CHAP.

CHAP. XXI.

Of STRAWBERRIES.

THE ſeveral Kinds of Strawberries worth our Notice, are the *Scarlet*, the *Hautboy*, and the *Wood Strawberry*.

THE *Scarlet Strawberry* (*Fig.* I. *Plate* LV.) is encreaſed by its own Runners, planted at ſixteen or eighteen Inches apart, in Rows about twenty Inches or two Feet apart, and being always kept to ſingle Roots, will produce their Fruits very early. Some plant them nearer together, as about one Foot Square, *in Beds* three Feet wide, with Allies of eighteen Inches between, and ſuffer them to run among one another; but they do not ripen their Fruits ſo early, nor are they near ſo large: however, it is neceſſary that we ſhould have ſome after this Manner to ſucceed the others that are firſt ripe from the ſingle Roots: Ripe *May* 10, 1727.

THE *Hautboy Strawberry* (*Fig.* III.) is a moſt delicious as well as large and beautiful Fruit; 'tis a great Bearer, and delights in a very rich holding Soil: It produces the beſt Fruit when planted and kept at the ſame Diſtances as the ſingle Roots of the *Scarlet*, and is encreaſed by its own Runners as the other aforeſaid: Ripe *June* 1.

THE *Wood Strawberry* (*Fig.* II.) is another good Fruit, and a very great Bearer, when planted in a freſh and rich Land, and kept well water'd during their Seaſon of Bloſſoming and Ripening, as indeed ſhould both the other Kinds preceding. This Kind is encreaſed by Runners, as the others; but 'tis always found that thoſe which are taken out of Woods and tranſplanted into Gardens, produce much better and

larger

larger Fruits, than thoſe encreaſed from Runners taken from old Roots in the Garden : They are generally planted at eight or nine Inches apart, and let run among one another ; but when they are kept to ſingle Roots, they are much larger, ſooner ripe, and better taſted.

EVERY fourth Year we ſhould make new Plantations; for in that Time their Strength and Vigour is exhauſted.

BOTH *Scarlet* and *Wood Strawberries* may be raiſed very early, if their Roots of two Years Growth are planted in ſmall Pots, and put in gentle Hot Beds in *January*, giving them moderate Waterings, with Water whoſe Crudity is before taken off by gentle warming, and all the Air that can be, ſo as to keep out cold Winds and Froſts.

CHAP. XXII.

Of RASBERRIES.

WE have but three Kinds of Rasberries in *England*, *viz.* The *White*, the *Red*, and the *Purple*: The Wood of the *White* and *Red* is of a bright Colour, and almoſt ſmooth; but that of the *Purple* is a dark Brown, and very thick ſet with ſmall prickly Excreſcences.

THEY are all propagated by Suckers, which ſpontaneouſly ſpring up in the Summer, and are planted in the Autumn following: They in general delight in clean freſh Land, being planted in Rows about eighteen Inches apart, and each Row four Feet aſunder. Some Gardeners, for want of knowing the Nature of the Fruit, let them run very thick together in the Rows, which is never ſo well as when they are kept to ſingle Roots.

WHEN we prune the Roots of Rasberries at the Time of Planting, we ſhould carefully preſerve their young Buds, which ſhoot out exactly even with the Surface of the Ground, for it is from thoſe Buds that the next Branches are produc'd, and when they are broken off before planting, they never live longer than the firſt Summer after planting: For as ſoon as the Branches of all the ſeveral Kinds have produced their Fruits, they immediately periſh.

BUT that we may not by theſe annual Decays, be wholly deſtitute of Wood for further Supplies, Nature does therefore produce young vigorous Shoots, whilſt thoſe of the laſt Year are bringing their Fruits to Maturity;

Maturity; which Shoots ſhould, in the End of *Auguſt* following, be pruned, or cut off, about one Foot from their extreme Parts.

N. B. *THE dead Wood is eaſieſt broken out in Froſty Weather.*

I NEED not give my ſelf the Trouble of informing the Gardener that he ſhould dig among his Rasberries very early in the Winter, any more than to keep them perfectly clean in the Summer from Weeds, Suckers, *&c.* ſince every one who takes Pleaſure in his Buſineſs can beſt ſee when thoſe Works are moſt proper to be done.

THE *Scarlet Rasberry* (*Fig.* V. *Plate* LVI.) is the moſt common, and firſt ripe *June* 1, 1727; 'tis a very fragrant pleaſant Fruit, and a great Bearer. The *White Rasberry* mix'd with the *Red*, makes a beautiful Appearance at the Table, and therefore we muſt not fail of having ſome of them for that Purpoſe, notwithſtanding that they are not in ſuch great Eſteem as the *Scarlet*.

THE *Purple Rasberry* hath a pleaſant Acidity in its Taſte, and is ſomething later in Ripening than either of the other two, for which Reaſon 'tis much eſteem'd for Preſerving.

CHAP.

CHAP. XXIII.

Of Gooſeberries *and* Currants, *or* Corinths, *ſo called from* Corinthia *whence they firſt came.*

WE have ſeveral Kinds of Gooſeberries in *England* which are very good, but the moſt valuable are the *Old Red*, (*Fig.* I. *Plate* LVI.) the firſt ripe, and almoſt loſt in *England*; the *Champaine*, *Fig.* II. the *White Dutch*, *Fig.* III. the *Amber Gooſeberry*, *Fig.* IV. the *Walnut Gooſeberry*, the *Rumbulion* and the *Damſon Berry*; which are in general produc'd by Slips or Suckers taken from the Roots of old Trees, and planted at three Feet apart in Rows, and four Feet aſunder. The beſt Method of Ordering Gooſeberries, is to keep them open in the Middle, like Dwarf Fruit-Trees, with the extreme Parts of their Shoots clipp'd every Year, and the old Wood conſtantly cut away, as young comes up to ſucceed.

THE *Red* and *White Dutch Currants*, are propagated as Gooſeberries, and ſhould be order'd in the ſame Manner, to have good Fruits: But I think that if we were to plant ſome few of the *White Dutch* againſt a South, or South-Eaſt Wall, they would be much improved thereby. And when we deſire to have either *Red* or *White* very late in the Seaſon, we ſhould plant ſome Part of our North-Walls with them; which, being kept thin in Wood, will produce very beautiful large Bunches of pleaſant Fruits.

CHAP. XXIV.

Of the Black MULBERRY.

THE *Black Mulberry*, (*Fig.* IV. *Plate* LVII.) being the only Mulberry that we propagate in *England*, for the Sake of the Fruits; I ſhall therefore ſilently paſs over all the other Kinds, ſince they are more ſuitable to the Taſtes of ſome Botaniſts, who delight in Varieties of many uſeleſs and unprofitable Plants, than to curious Propagaters of advantageous Fruits.

THE moſt expeditious Method of raiſing this Kind of Mulberry, is by Layers, which ſhould be laid down in *October* at leaſt eighteen Inches apart, that a free Air may be continually circulating about them; and there remain upon the Stools full two Years after, before they are taken away, that thereby they may be well rooted, when we come to take them up for tranſplanting into the Nurſery.

THE Diſtances that they are planted at in the Nurſery, ſhould not be nearer than two Feet and a half, or three Feet, and not nine Inches or a Foot as is uſually done, whereby they have not half enough Air to perſpire in, and conſequently are greatly injur'd thereby.

THE Leaves of the Mulberry being very large and heavy, cauſe their leading Shoots to bow downwards, and thereby grow crooked: Therefore to prevent ſuch deform'd Growths, we ſhould place ſtrait Stakes, or Arbour Poles, by the Side of every Plant, and thereto tie their leading Shoots as they ariſe.

WE ſhould alſo diſplace all the lateral Buds as they appear, that the whole Nouriſhment may be fully employ'd in the Support of the Stems only.

WHEN our Plants are riſen to five or ſix Feet high, we muſt prune off their leading Shoots, to cauſe their upper lateral Buds to break out into divers Branches, with which their Heads are form'd.

THERE is a Kind of *Black Mulberry*, which produces great Quantities of Katkins in *May*, (as *Fig.* VIII. *Plate* LVIII, LIX.) and very few Fruits; which, when diſcover'd, ſhould be either budded or grafted with the true bearing Kind.

IF we obſerve how theſe Fruits are produc'd, we may ſee what a wonderful Proviſion Nature has made for their Support and Protection, by placing of Leaves immediately over the Fruits, which do not only attract and imbibe Nouriſhment from Dews, Rains, *&c.* and perſpire away the Crudities thereof, but protect them during their Growth from the Injuries of Heat and Cold.

THOSE Fruits which are produced this Year, were form'd in the Buds in the laſt Year; for if in the Depth of Winter we ſlit the Bud of a Mulberry from its Apex down its Axis to the Baſe, we may with the naked Eye diſcover the young Fruit in its Matrix, carefully wrapt up in its tender Leaves, which, with great Force, expand themſelves with the Fruits when they firſt appear in *May*, as *Fig.* IV. *Plate* LIX.

CHAP.

CHAP. XXV.

Of PHILBERTS, WALNUTS, *and* BARBERRIES.

WE have two Kinds of Philberts, *viz.* the *Red* and the *White*, which laſt is the moſt eſteem'd by the Curious: They are both propagated by Suckers or Layers, and make very handſome Hedges in our Kitchen and Fruit-Gardens.

THERE is alſo a large Sort, called the *Cob-Nut*, (*Fig.* III: *Plate* LVII.) which makes very handſome Standard-Tree: The Nut is much larger than either of the Philberts, very ſweet, and a good Bearer.

THE *Hazel Nut*, (*Fig.* II.) is a pleaſant Fruit when well ripen'd; and tho' it is not worth our while to make Plantations thereof in our Fruit-Gardens, yet in the Quarters of our Wilderneſs they are very beautiful and advantageous.

WALNUTS are very profitable in their Nuts, as well as their Timber, when largely grown. We have a very great Variety of Kinds: There is one very large Sort, (*Fig.* III, V. *Plate* LVIII, LIX.) called the *French Walnut*, beſt for Pickling, becauſe when Seaſons are very wet and cold, 'tis very ſeldom they ripen with us.

THE *Engliſh Walnuts* differ very much in their Qualities, ſome being very ſmall, (as *Fig.* XI.) and thin ſhell'd; others of the ſame Magnitude and very thick ſhell'd: Then there's other Kinds of the

Magnitude

Magnitude of *Fig.* IX, X. ſome of which are good, and others worth nothing. And as they are all rais'd from Nuts, which, like many other Seeds, often degenerate from the Mother-Tree, we cannot be certain of our Kinds, unleſs we are ſo Curious as to Bud our Trees, when largely grown, with Kinds that we know are good.

BARBERRIES are propagated by Suckers or Layers: There are two Kinds, the one with Stones, the other without Stones, but the Form of their Leaves and Fruits are alike, as repreſented in *Fig.* VI. *Plate* LXXIII. That Sort without Stones is the moſt valuable for Uſe: It makes a very handſome Hedge in the Fruit or Kitchen-Garden, and very good Fence againſt Cattle, *&c.*

CHAP.

CHAP. XXVI.

Of PEARS *and* QUINCES.

PEAR-TREES differ very much in their Time and Manner of producing Fruits: Some Kinds produce their Fruits on the extreme Part of the ſame Year's Wood, as Mr. *Hill's* double bearing Pear of *Tedington*, (*Fig.* IV. *Plate* LXIII.); others at the Extremity of the Branches alſo, but upon the laſt Year's Wood; and laſtly, others upon Branches of three Years old, and ſometimes longer, according to the more or leſs Luxuriancy of the Tree: But for the Generality moſt of our beſt Kinds of Pears are firſt produced upon Branches of three Years Growth, which, if skilfully order'd, continue fertile many Years afterwards. Now ſince that the annual Shoots of ſuch Kinds of Pears are in the ſecond Year preparing themſelves to produce Fruits in the third Year; therefore all ſuch Kinds ſhould be well furniſh'd with thoſe ſeveral Sorts of Wood, that, by having a ſufficient Quantity thereof, we may be always furniſh'd with fruitful Branches to ſucceed thoſe that become barren by Time.

THIS is exhibited in *Plate* LX. where *Fig.* I. is a true Repreſentation of the laſt Year's Shoot of the *Virgoulee Pear*, with its *Courſons*, or Spurs, P M O N, from whence the Fruits are produc'd in the third Year. S T V are Leaf-Buds, which are placed to attract Nouriſhment to the *Courſons*, and perſpire away the Crudities thereof.

THOSE *Courſons* P M O N muſt be ſhorten'd at the next Seaſon of Pruning after they are produc'd, (as E F G, *Fig.* II.) which will, in the ſecond Year, cauſe them to produce many Buds, as *b c f h*, that in

one Year after, are very much dilated, and prepared for producing Bloſſoms in the third Year: And being arrived unto this fruitful State, (as *Fig.* III.) they immediately expand themſelves into Bloſſoms and Leaves, (as *Fig.* I, II, III, IV, V. *Plate* II, III.)

AND again, after the third Year, when their *Courſons* or Spurs are become fruitful, Nature does every Year produce new Buds to ſucceed thoſe which are bearing Fruits: For whilſt the Pear was coming to its Maturity at X, *Fig.* III. the Buds *l l* were preparing themſelves to produce Bloſſoms in the following Spring, and at the ſame Time Nature produced the Bud P to ſucceed thoſe at *l l*; and ſo on during the Life of the Tree.

IT very often happens that the Branches of Pear-Trees produce luxuriant Shoots, which being prun'd in *June* within an Inch and half of the Branch from whence it ſprung, will in the Autumn produce an Autumn Shoot, with ſome Buds diſpoſed for Fruit alſo. Thus K, *Fig.* III. which ſhooting with great Luxuriancy, was prun'd at K in *June*, and afterwards produced the Autumn Shoot M L, with the two bearing Buds *i i* alſo. But at the following pruning Seaſon thoſe Autumn Shoots muſt be entirely diſplaced.

WHEN the Luxuriancy of Pear-Trees is ſo very great as not to be check'd with Pruning, we muſt either diſplace one or more of their Roots, (and particularly thoſe that grow downright, if any be) or disbark in part the lower Parts of ſuch luxuriant Branches, which will prevent the Sap from riſing in too great a Quantity; for 'tis the too great Quantity of Nouriſhment that is the Cauſe of Luxuriancy.

WHEN we prune the Branches of Summer Pears, we ſhould obſerve the Nature of their Buds; for (as it has been before ſaid) many Kinds produce their Fruits at the Extremity of their laſt Year's Shoots, which muſt be always nail'd in at full Length, or otherwiſe perhaps the Trees may not produce one ſingle Pear in twenty Years Time.

ALL Summer and Autumn Pears will ripen very well upon Dwarfs and Eſpaliers; but our Winter Fruits ſhould have the very beſt Walls and Aſpects we can afford them.

THE

THE ſeveral Kinds of Pears exhibited in *Plates* LXI to LXXII incluſive, are in general of the very beſt Kinds, as well for Stewing, Baking, *&c.* as for the Table: And as I have here truly repreſented the exact Forms and Magnitudes of their Leaves and Fruits in their natural Colours, and as their Seaſons of Ripening and Keeping are exhibited in the following Table; there needs no more to be ſaid of their ſeveral Deſcriptions: I therefore refer you to them ſeverally, as they are delineated in the following Plates.

An Alphabetical TABLE *of the beſt Kinds of* PEARS *in* England, *exhibiting their Seaſons of* Gathering, Ripening, *and* Duration.

		When to be gather'd.	*Eatable.*	*Duration.*	*N° of Plate where each is exhibit.d.*
Ambret -	*Fig.* IV.	*Sept.* 20,	*Dec. & Jan*	*February* —	LXVI.
St. Andrew -	III.	*Sept.* 20,	———	——— ———	LXXII.
Bordine *Musk* -	I.	*June* 30,	*June* 30,	But a ſmall Duration	LXI.
Blanquet *Petit*	III.	*Aug.* 5,	When gather'd	But a ſmall Duration	LXI.
Beziderry -	III.	*Sept.* 20,	———	——— ———	LXVI.
Buree de Roy	III.	*Sept.* 10,	When gather'd	To the End of *Octob.*	LXIV.
Buree *Brown*	VI.	*Sept.* 10,	When gather'd	To the End of *Octob.*	LXIV.
Buree *Winter*	II.	*Sept.* 20,	*February*	*April* —	LXX.
Bergamot *Winter*	I.	*Sept.* 10,	———	——— ———	LXVII.
Bergamot *Common*	I.	*Aug.* 20,	A Day or 2 after gathr.	About one Month after gathering -	LXV.
Bergamot *Bugy*	V.	*Sept.* 20,	———	———	LXVI.
Ditto Swiſs	VIII.	*Sept.* 20,	*Oct.* 10,	Two or three Weeks	LXIII.
Ditto Hamdens	III.	*Aug.* 30,	When gather'd	Two or three Weeks	LXV.
Bon-cretien *Sum.*	II.	*Aug.* 12,	A Day or 2 after gathr.	Three Weeks or a Mon.	LXV.
Ditto Autumn	VI.	*Aug.* 20,	Soon aft' gathr.	About ſix Weeks	LXIV.
Ditto Golden -	I.	*Sept.* 20,	*November*	To the End of *Feb.*	LXVIII.
Ditto Winter -	III.	*Sept.* 30,	*January*	To the End of *March*	LXVIII.
Ditto Spaniſh -	II.	*Sept.* 30,	———	——— ———	LXVIII.
Catherine *Royal*	V.	*July* 25,	Soon aft' gathr.	But a ſmall Duration	LXII.
Catherine *Queen*	V.	*July* 30,	Soon aft' gathr.	But a ſmall Duration	LXI.

Craſan

		When to be gather'd.	*Eatable.*	*Duration.*	*N° of Plate where each is exhibited.*
Craſan -	*Fig.* IV.	*Sept.* 20,	Middle of *Oct.*	About one Month after being eatable	LXV.
Chaſſerie -	I.	*Sept.* 20,	*November* —	Until *January* ——	LXX.
Colmar -	III.	*Sept.* 30,	*December* —	Until the End of *Jan.*	LXVII.
Cuiſſe Madam -	III.	*July* 10,	A Day or 2 aft' gather'd	Three Weeks ——	LXI.
Double Bloſſom	II.	*Sept.* 30,	*December* -	Until *April* ——	LXXII.
Doyenne -	VII.	*Sept.* 30,	*November* -	*January* ——	LXIII.
Epine d'Hyver	VI.	*Sept.* 20,	*December* -	*January* ——	LXVII.
Green Chizel -	II.	*July* 20,	When gather'd	But very ſhort —	LXII.
St. Germain -	II.	*Sept.* 20,	*November* —	*January* ——	LXVI.
Mr. *Hill's* 1ſt Crop	II.	*Aug.* 24,	When gather'd	But very ſhort —	LXIII.
Second -	IV.	*Sept.* 30,	When gather'd	About a Fortnight —	LXIII.
Jargonel -	IV.	*July* 10,	When gather'd	About a Fortnight —	LXI.
Lombard Pear -	I.	*July* 25,	When gather'd	About a Fortnight —	LXIV.
Lanſac -	V.	*Sept.* 30,	*November* -	*January, February*	LXVII.
Martin Sec. -	I.	*Sept.* 30,	*December* -	*February, March* —	LXXII.
Meſſire John -	I.	*Sept.* 30,	Soon aft' gathr.	About one Month	LXIV.
Marquiſs -	IV.	*Sept.* 30,	*November* -	*January* ——	LXVIII.
St. Michael -	III.	*Aug.* 8,	The Day 'tis ripe -	Two Days at moſt	LXXII.
Ruſſelet *Petit* -	II.	*Aug.* 24,	When gather'd	About ten Days ——	LXIV.
Ruſſelet *Groſs* -	IV.	*Aug.* 24,	When gather'd	About three Weeks	LXV.
Royal d'Hyver	IV.	*Sept.* 30,	*December* —	*January, February*	LXVII.
Roſe d'Ete -	VI.	*July* 17,	When gather'd	About three Weeks	LXI.
Sugart Vert -	I.	*Sept.* 5,	When gather'd	Three Weeks or a Mon.	LXIII.
Swans Egg -	IV.	*Sept.* 20,	Soon aft' gathr.	- - -	LXIV.
Salviati -	V.	*Sept.* 20,	*Ditto* -	15 or 20 Days ——	LXIV.
Sattin Pear -	VI.	*Sept.* 30,	*Ditto* -	*November, December*	LXVI.
Vermillion -	I.	*July* 17,	*Ditto* -	About a Fortnight —	LXII.
Virgoule -	II.	*Sept.* 20,	*Nov. Dec.* -	End of *January* ——	LXVII.
Vert Longue -	V.	*Sept.* 20,	Soon aft' gathr.	Three Weeks or a Mon.	LXIII.
Ditto, Strip'd	VI.				
Windſor -	II.	*July* 10,	Soon after gather'd	About three Weeks	LXI.

THE

The beſt Pears for Baking, Stewing, &c. *are,*

The *Black Pear* of *Worceſter, Fig.* II. *Plate* LXXI.

Cadilac, Fig. IV. *Plate* LXXI.

Donvile, Ronvile, Fig. IV, VI. *Plate* LXX.

Pear-Lewis, Fig. III. *Plate* LXX.

Pickering's *Warden,* and *Pound Pear, Plate* LXXI.

Engliſh Warden, Plate LXXII. and *St. Francis, Fig.* V. *Plate* LXX.

QUINCES are beſt when grafted upon their own Stocks.

THE beſt Kind is the *Portugal Pear Quince,* (*Fig.* I. *Plate* LXXIII.) next to which is the *Portugal Apple Quince,* (*Fig.* II.); and laſtly, the very worſt of all is the *Engliſh Quince,* (*Fig.* III.)

CHAP. XXVII.

Of APPLES.

APPLES are in general produc'd on Wood of two Years growth, and require as much Air about their Branches to perſpire in, as any other Kind of Tree; therefore if they are but allow'd ſufficient Air, and their Poſitions nearly horizontal, they require no further Care.

THE beſt Kinds worth our Notice, for the Table and Kitchen, are the following, *viz.*

	Fig.	*Plate.*
* Api	IV.	LXXV.
*Bost Apple fr'*Han.*	VI.	LXXVII.
Codling	III.	LXXIV.
* Corpendue	II.	LXXV.
* Calvile *Acoute*	I.	LXXVIII.
* Calvile *Red*	III.	LXXV.
* Calvile *Royal*	VI.	LXXV.
* French Pippin	VI.	LXXVI.
French Rennet	III.	LXXVI.
* Fenellet	I.	LXXV.
* Francatu	V.	LXXVI.
* Golden Rennet	VI.	LXXIV.
* Golden Pippin	VII.	LXXIV.
* Holland Pippin	I.	LXXIX.
* Jerusalem Apple	IV.	LXXVI.
Juniting	II.	LXXIV.
* June Apple	VI.	LXXVIII.
Kirton Pippin	IV.	LXXIV.
Kitchen Apple		
Kentish Pippin	VI.	LXXIX.
Kentish Rennet	III.	LXXIX.
Listning, or July Ap.	V.	LXXIV.
Margaret Apple	I.	LXXIV.
* Monstrous Ren.	III.	LXXVIII.
* Maucoan	V.	LXXV.
* Non-pareil	IV.	LXXIX.
Pear Russet Apple	V.	LXXVII.
* Pearmain *Loans*	II.	LXXVI.
Pickering's Pearm.	VII.	LXXVII.
Pome-Roy	II.	LXXIX.
Russeting		
Russet *Golden Pip:*	V.	LXXIX.
Russet Wheelers		
Stone Pippin	IV.	LXXVII.
Spencer Pippin	V.	LXXVIII.
Winter Pearmain	IV.	LXXVIII.

N. B. *THOSE Fruits marked thus * are very beautiful when Grafted upon Paradiſe Stocks, and planted in Pots, Borders,* &c.

THE Characters of the ſeveral Cyder-Fruits of *Herefordſhire*, and many other Countries famous for that Liquor, being in general much inferior to four Kinds ſent me from *Pynes* near *Exeter* in *Devonſhire*, by the Honourable *Hugh Stafford*, the *Stire Apple* excepted, which I have not yet ſeen; I ſhall therefore omit their Deſcriptions, and in lieu thereof give the following Account of thoſe Fruits, as I receiv'd it from that worthy Gentleman.

A Curious

A

Curious ACCOUNT

Of the moſt Valuable

CYDER-FRUITS

OF

DEVONSHIRE.

To Mr. Batty Langley at *Twickenham.*

SIR,

SINCE you have ſeen the *Royal Wilding Apple* itſelf, (*Plate* LXXVII.) which is ſo very much celebrated (and ſo very deſervedly) in our County, the Hiſtory of its being firſt taken Notice of, which is freſh in every Body's Memory, may not perhaps be unacceptable to you. The ſingle and only Tree from which the Apple was firſt propagated, is a very tall, fair, and ſtout one, I believe about twenty Feet high: It ſtands in a very little Quillet (as we call it) of Gardening, adjoining to the Road that leadeth from *Exeter* to *Oakhampton*, (the Poſt Way) in the Pariſh of St. *Thomas*, but near the Borders of another Pariſh called *Whitſtone*: A Walk of a Mile from *Exeter* will furniſh any one, who hath ſuch a Curioſity, with a Sight of it.

IT

IT appears to be properly a *Wilding*, that is, a Tree rais'd from the *Kernel* of ſome other Apple, without having been ever *Grafted*, and (what ſeems well worthy being obſerv'd) hath, in all probability, ſtood there much more than ſeventy Years; for two antient Perſons of the neighbouring Pariſh of *Whitſtone*, who died each of them *ſeveral Years* ſince, aged upward of the Number of Years now mention'd, declar'd, That when they were Boys, and firſt went the Road, it was not only growing there at that time, but, what is very well worth Notice, was *then* as tall and ſtout as it now appears, (and we may reaſonably ſuppoſe that was when they were each about 12 or 13 Years of Age); nor do there appear at this time any Marks of *Decay* upon it, as far as I took notice.

IT is a very *conſtant* and *plentiful* Bearer every other Year, and then uſually produceth Apples enow to make one of our Hogſheads of Cyder, which contains 64 Wine Gallons; and this was one Occaſion of its being firſt taken Notice of, and yields an Hiſtory which I believe no other Tree ever did: For the little Cot Houſe to which it belongs, together with the little Quillet (as aforeſaid) in which it ſtands, being ſeveral Years ſince *mortgaged* for ten Pounds, the Fruit of *this Tree alone*, in a Courſe of ſome Years, freed the Houſe and Garden, and its *more valuable Self*, from that Burden which is wont to involve all other Eſtates in one common Ruin.

Mr. *FRANCIS OLIVER* (a Gentleman of the Neighbourhood, and, if I miſtake not, the Gentleman who had the *Mortgage* juſt now mention'd) was one of the firſt Perſons about *Exeter* that affected the *Rough Cyder*, and for that Reaſon purchaſed the Fruit of this Tree every bearing Year: However, I cannot learn that he ever made it *ſeparate* and *apart*, but *mix'd* it with other Apples, which notwithſtanding added an *Advantage* to his Cyder, with all thoſe who had any true Reliſh for that Liquor.

WHETHER it was *this* or any *other* Motive, I cannot particularly ſay, that brought on the more happy Experiment on this Apple. But the Reverend Mr. *Robert Woolcombe*, (Rector of *Whitſtone*, the Pariſh before mention'd) who uſed to amuſe himſelf with a *Nurſery*, put on

ſome

ſome Heads of this *Wilding*; and a few Years after being out in his *Nurſery*, about *March*, a Perſon came there to him on ſome Buſineſs, and finding ſomething roll under his Foot, took it up, and it proved an *Apple* of this *precious Fruit*, which Mr. *Woolcombe* receiving from him, finding it perfectly *ſound*, after it had lain in the long Graſs and Stroyle of the Nurſery, thro' all the *Rain*, *Froſt*, and *Snow* of the foregoing Winter, thought it muſt be a Fruit of more than common Value: And having taſted it, and found the Juices, not only in a moſt perfect *Soundneſs* and *Quickneſs*, but ſuch likewiſe as ſeem'd to promiſe both the *Body*, *Roughneſs*, and *Flavour* that wiſe Cyder-Drinkers in *Devon* now begin to deſire; he obſerved the Graft from which it had fallen, and ſearching about found ſome more of the Apples, and all of the ſame *Soundneſs*; upon which, without any Heſitation, he reſolv'd to graft ſome Numbers of them; which he accordingly did, but waited with Impatience for the Experiment, which you know muſt be the Courſe of ſome Years: They came at length, and, if I miſtake not, his firſt Reward was a ſmall Barrel of the Juice; but his much greater was the Excellency of it, which far exceeded all his Expectations.

Mr. *WOOLCOMBE* was not a little pleaſed with it, and talked of it in all Converſations; it created *Amuſement* at firſt, but when Time produced an Hogſhead of it, from *Raillery* it came to *Serioufneſs*, and every one from *Laughter* fell to *Admiration*. In the mean time he had thought of a *Name* for his *Britiſh Wine*, and as it appear'd to be in the original Tree a Fruit not Grafted, he retained the Name of *Wilding*; and, as he thought it ſuperior to all others, ſo he gave a Title of Soveraignty to it; and hence the triumphant *Royal Wilding*, *Fig.* I. *Plate* LXXVII.

THIS, if I rightly remember, was about 16 Years ſince: The Gentlemen of our County are now buſy almoſt every where in promoting it, and ſome of the *wiſer* Farmers and Juſtment-Holders: but we have not yet (for Time you know muſt do that) enough for Sale: I have known five Guineas refuſed for one of our Hogſheads of it, tho' the common Cyder goeth for Twenty Shillings, and the *South-Ham* from Twenty-five to Thirty.

I MUST add, that Mr. *Woolcombe* hath reſerved ſome of them for Hoard; I have taſted the Tarts of them, and they come nearer to the *Quince* than any other Tart I ever eat of.

WHERE-EVER it hath been tried as yet, the Juices are perfectly *good*, (but *better* in ſome Soils than others) and when the Gentlemen of *South-Hams* will condeſcend to give them a Place in their Orchards, they will undoubtedly exceed us in this Liquor, becauſe we muſt yield to them in the Apple Soil: But it is happy for us that at preſent they are ſo wrapt up in their own *Sufficiency*, that they do not entertain any Thoughts of fetching Apples from us; and when they ſhall, it muſt be another twenty Years before they can do any thing to Purpoſe, tho' ſome of their more thinking Gentlemen I am told begin to get ſome of them tranſported thither, (by Night you may ſuppoſe, partly for Shame, and partly for Fear of being mobbed by their Neighbours) and will, I am well aſſured, much rejoice in the Production.

I AM perſonally acquainted with Mr. *Woolcombe*, and if I may be miſtaken in ſome of the *Circumſtances* of the Hiſtory, (as it is here related) I can promiſe you I have the *Subſtance* from his own Mouth, and am ſo perfectly poſſeſſed with a Perſuaſion of the Excellency of the Cyder, that I doubt not in the Courſe of twenty Years more, when Gentlemen ſhall have furniſh'd themſelves with the Fruit, and the Farmers ſhall have fallen in with it alſo, this County will be render'd abundantly happy in it; and therefore I could really wiſh, that whenever the *Original* Tree decayeth, (if it *ever* ſhall, tho I aſſure my ſelf the Fruit will *never* be out of Uſe) his Statue (carved out of the Stump, but by the fineſt Hand, and overlaid with Gold) may be erected near the publick Road in the Place of it, at the common Charge of the County of *Devon*.

WHAT other Fruits there may be *in Nature*, neither you nor I can ſay, becauſe you well know whenever we ſow the Kernels of any Apples, we have always *Varieties* of *new* and *unknown* Apples produced; but I will venture to affirm I never taſted any Cyder equal to it, (not all the genuine *Hereford* I ever drank) that of the *Whitſour* (*Fig.* III. *Plate* LXXVII.) only

only excepted, (of which more hereafter) and as yet the Controverſy betwixt *That* and the *Royal Wilding* continues undetermin'd.

THE Colour of the *Royal Wilding*, without any Aſſiſtance of *Art* in any Kind, is a bright *Yellowiſh* rather than a *Rediſh Beeriſh* Tincture; The other Qualities are a *Noble Body*, an *Excellent Bitter*, a *Delicate* (excuſe the Expreſſion) *Roughneſs*, and a fine *Vinous Flavour*: All the other Qualities you may meet with in ſome of the beſt of our *South-Ham* Cyder, but the laſt is peculiar to the *Royal Wilding* and the *Whitſour* only, and you will in vain look for it in any other.

BEFORE I yet leave the *Royal Wilding*, I muſt further let you know, that it is ſometimes called (tho' no leſs *injuriouſly* than *unaccurately*) the *Red-Hill-Crab*, from the Name of that Part of the *Highway* near which the original Tree ſtands, which is called *Red-Hill.*

THIS Name is *injurious*, becauſe *Crab* (as yet) is uſed among us in a Senſe of *Diminution*, at leaſt, if not of *Reproach*; or was it not ſo, it is plain there is nothing in that Name which ſuggeſts the *ſuperlative* Excellency of the Fruit; whereas the Title of *Royal Wilding* carrieth in its very Sound, as it ought to do, the Preference which it deſervedly hath to all other Cyder-Fruit yet diſcover'd.

AND this other Name, as I ſaid, is alſo *unaccurate*, becauſe I rather take it for an *Apple* than a *Crab* (of which, however, ſince you have them before you, your ſelf may judge): For I muſt further let you know, that tho' we frequently take the Word *Apple* for the whole Kind, (as we call the whole Kind *Horſes*, including as well *Mares* as *Horſes*, more ſtrictly ſpeaking) yet when we ſpeak more *exactly*, we underſtand the Word *Apple* in *Oppoſition* and *Contradiction* to the *Crab*, which moſt commonly is a very *ſmall*, *harſh*, *yellow* Fruit, and ordinarily groweth in our *Hedge-Rows*, tho' they make very large and very laſting Trees; however, I have ſeen one Sort of this *very ſmall harſh* Fruit finely ſtreak'd with *red* Outſide; and in my Neighbourhood there is one Tree of another Kind of them, which is *red* both Inſide and Outſide, and it is the only one of the Kind I ever ſaw or heard of.

WHILST

WHIST I have thus had occaſion to mention the *Crabs*, it may not be improper to inform you that the Excellence of them for Cyder was never commonly (if at all) known until within theſe late Years: They were formerly ſuffer'd to fall and *be eaten by the Hogs*, when they would eat them, (which was not always, becauſe of their Harſhneſs) or elſe to *rot* upon the Ground: But they are now ſo well underſtood, that they ſell at a much greater Value than the *common* Apples, and we begin to propagate them by Grafting in our Orchards, tho', in my Opinion, they do much better as an *Ingredient* in Cyder, when mix'd with other Fruit, than when pounded by *themſelves*. The firſt Diſcovery of their Uſefulneſs was the pounding of ſome of them for *Vinegar*, which, when taſted, proved much better Cyder than any of the *common* Cyder of our Country.

HOWEVER, there is a much ſmaller Sort of Crab with us, not larger than the Top of one's *Thumb*, (and I think never making a *Tree*, but growing only in *Buſhes*) which we never put in our Cyder, but uſe them only to make *Vinegar*.

YOU will not, it may be, think it improper if I take Notice to you in this Place, that Cyder made all of any Sort of *Wildings*, (that is, as I firſt ſaid of Apples propagated from Kernels, and never grafted upon with any Sort of Fruit, tho' you may graft them on what Stocks you pleaſe) is ever found to be excellently good, and much preferable to that made with our *common* Apples. There is a Gentleman in the Neighbourhood of *Exeter*, who hath now large Plantations of them, which furniſh him with *admirable Liquor*; but the beſt of it wants the *delicate* and moſt *diſtinguiſh'd* Flavour of the *Royal Wilding* and *Whitſour*; nor did I ever meet it in any *Wilding*, (nor indeed in any *other* Apple) except in one Sort of *Wilding of my own*, of which I ſhall ſay ſomething by-and-by.

I HAVE only to add concerning the *Royal Wilding*, that within theſe twelve or fourteen Years, I believe more than 200,000 of the Grafts have been propagated in *This* and the *Neighbouring Counties*; and, if I miſtake not, I heard about two Years ſince, that ſome of them were ſent for from *Yorkſhire*; and what would you ſay if they ſhould be

be tranſplanted to the *Rhine*, which however is not altogether ſo *improbable* as you are apt to imagine; for a Gentleman who carried ſome of the *Whitſour* with him into *Germany*, (and, as I have before ſaid, no one can ſay which of the two *exceeds*) aſſured me, that when he had much celebrated the Glories of his Cyder, a *German*, whoſe Expectations of this extraordinary Liquor were much raiſed when he had taſted it, cried out, *He found nothing in it, for it was only like their* Rheniſh.

AND thus much for the *Royal Wilding*. I am now to let you know as much as I my ſelf do of its *only* Rival the *Whitſour*, (or *Whiteſour*, ſpell it as you pleaſe) of which, however, you will find I have much leſs to ſay, than on the other beloved Subject, becauſe I am at ſome Diſtance from that Part of our County which chiefly produceth it, and becauſe it ſeemeth to be in a great meaſure co-incident with many of the Things I have before told you of the *Royal Wilding*.

THIS is a *ſmall yellow* Apple, which falls very ſoon: There are *two* or (as others ſay) *three* Sorts of them, but the beſt is what they call the *Pancraſs Whitſour*, (tho' why ſo called I cannot tell you) and is the ſmalleſt; there were ſome of them in my Neighbourhood a great many Years ſince, and I know not whether they might have been diſperſed in ſome other Part of our County; but they are the *genuine* Produce of that Part of the County called the *South-Ham*, (bounded by the Rivers *Teing* and *Dart*) and are not yet common in the other Parts of our County, tho' we now begin to promote them as faſt as we think we have got *Royal Wildings* enow.

AS far as I can learn they have been long in the *South-Ham*, but until within theſe eight or ten Years in ſo bad Reputation, that the Cyder of them ſold for *one half* the Value leſs than the other Cyder, as a Gentleman of that Country (very well acquainted with the Cyder-Knowledge of thoſe Parts) told me.

THE *Qualities* of the Juices are preciſely the ſame with thoſe of the *Royal Wilding*, and ſo very near one to the other, that, as I have before often ſuggeſted, they are perfect *Rivals*, and created ſuch a Conteſt, as is very uncommon, and of which I was an Ear-Witneſs. A Gentleman of the *South-Ham* whoſe *Whitſour* Cyders, for the Year,

were very celebrated, (for our Cyder Vintages, like thoſe of the *Clarets* and *Ports*, are very *different* in *different Years*) and had been drank of by another Gentleman, who was a happy Poſſeſſor, and uncontеſted Lord, *facile Princeps*, of the *Royal Wilding*, met at the Houſe of the latter Gentleman, a Year or two after the fam'd *Royal Wilding* you may be ſure was produc'd, as the beſt Return for the *Whitſour* that had been taſted at the other Gentleman's: And what was the Conteſt? Each Gentleman did not contend, as is uſual, that his was the *Beſt* Cyder; but ſuch was the *Æquilibrium* of the Juices, and ſuch the Generoſity of their Breaſts, (for finer Gentlemen we have not in our County) that each affirmed his own was the worſt; the Gentleman of the *South-Ham* declared in Favour of the *Royal Wilding*, and the Gentleman of our Parts declared for the *Whitſour*. In the mean time, the Company (which was publick and very numerous) could not decide the Controverſy, becauſe (being Gentlemen of the ſtricteſt Juſtice) the *Whitſour* was not then preſent to *ſpeak for itſelf*: But thoſe who had taſted each of them, as far as they could judge from the Repreſentations of their *Memories*, remain'd under a perfect Indetermination.

THE Manner in which the *Whitſour* came to ſhew itſelf in its true Luſtre, was thus, as far as I can learn: Our beſt and ſtrongeſt Cyders, and thoſe which have the boldeſt *Roughneſs*, (and for any thing I know the Caſe is the ſame with *all* Apple Juices) grow *harder* the longer they are permitted to ſtand on the *Groſs-Lyes*, and therefore the ſooner they are taken off from them, the more they are *ſoftned*: we therefore chuſe to rack them from the *fouler* or *thicker Lyes*, as ſoon as we perceive they are *ſeparated* in ſome tolerable Manner, which (according to the fairer or more diſturbed Weather) is ordinarily in two, three, or four Days, and the more *ſoft* you would have your Cyder, the more *frequently* you rack it to three or four Times only; the weaker Cyder will not bear it above twice.

BY this Method, as far as I can learn, the *Whitſour* was firſt brought into Repute; and I have within theſe ten Days taſted of that Cyder, (brought from the *South-Hams*) made this twelve Months, bottled laſt Summer, and perfectly *fine*, which was as *ſweet* and *mellow* as tho' it had come that Morning from the *Pound*: and under all that *Honey*, it had all the *Roughneſs* and *Boldneſs* which is the Glory of our Cyder:

only

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only wiſe People would be more ſparing in that firſt Racking, that they may thereby deſtroy that *Laſciviouſneſs* which may be acceptable to a *Female* or a *Londoner*, but is ever offenſive to a *bold* and *generous Weſt-Saxon.*

WHAT I have now ſaid of *Racking the Whitſour* holds good of all the *other better Cyders* likewiſe, and is the true Reaſon of the Advance of the *South-Ham Cyder* into that Reputation which it hath gotten of late Years: A ſhort Account of which will not (it may be) prove unacceptable.

THE *Claret* in which our truly *Loyal* Gentlemen ever drank the *Church* and *King*, was ſtopp'd from *France* by the —— *Revolution*: It was impoſſible they could live without Drink, and as impoſſible to have it in a *fair Way* (any *other* you know they *always* ſcorn'd) from *Bourdeaux*: They had endured an *half Famine*, (that of Drink) and as *Magiſter Artis Ingeniique Largitor Venter*, they applied themſelves to *improve* the Produce of their *own* Fruit. This of *frequent* Racking was the *happy* and *ſucceſsful* Thought, by which they found their rougher Fruits ſo much *mended*, that I make no doubt, if a free Trade with *France* was now again open'd, the Import of the *ſmaller* Clarets would be abundantly *leſſened*, and twenty Years hence, when *Royal Wilding* and *Whitſour* may become ordinarily *vendable*, *Bourdeaux* itſelf may feel the Effects of it.

WHILST I am ſpeaking to you of *Racking*, I muſt not omit to ſay, that a Perſon in my Neighbourhood, who had the *Whitſour* in his Orchard many Years, (tho' either by *mixing* it with *other* Fruits, or for want of the *Talent* of *proclaiming* it, he never contributed towards *raiſing* its *Reputation*) hath told me, That unleſs you watch it carefully, and take its firſt Separation from the groſſer Lyes, (which will be in a *very few* Days) it is a difficult Matter ever to get it fine *after*. And this perhaps would be no ill Rule to be obſerv'd in all the *ſtronger* Cyders; tho' whether this was his Caſe in a *ſingle* Year only, (and ſuch Caſes I know are frequently to be met with) or whether he *always* found it ſo, I do not remember that I enquired of him.

WHAT

WHAT I have now ſaid of *Racking*, (which, properly ſpeaking, is drawing it from one *cloſe* Cask to another) may perhaps be as *well*, if not better, practis'd (and I know it to be the Practice of many Gentlemen) by getting a very large *open Vat* or *Kieve*, which will contain a whole Pounding of Cyder, and the *Pummice*, as we call it, (that is, the *groſſer Parts* of the *Pulp* of the Apples, which will, tho' *ſtrain'd* at the Pound thro' a Range, *mix* with the Juice) you ſhall find in leſs than a Day to riſe at the Top, and in a Day or two more at moſt, to grow very thick; and as ſoon as little white *Fermentations* break thro' it, (about the Largeneſs of the *Top* of your *Finger*) they preſently draw it off *under* at a Foſſet-Hole; if you ſuffer it to continue longer, all the *Head*, which is then become a *thick Cruſt*, will ſink away at the Bottom, and this ſerves inſtead of the *firſt* Racking: But by letting your Cyder continue longer or leſs Time on theſe Lyes in the *cloſe* Casks, you may *harden* or *ſoften* it at your Pleaſure, as you likewiſe may by frequent *after Rackings*; but this is a Method which the weaker Cyders will not endure, (as is before ſaid) *one* or *two* Rackings at moſt is all they can bear, they have not Body and Spirit enough to undergo any more ſuch *Expences* as that Operation doth unavoidably create.

THERE is one Thing not yet taken Notice of in theſe Cyders, which concerns their *Age*, and the Time of their continuing *good*. The moſt frequent *Commendation* you meet with of other Cyders, is, that they will keep three, four, or (rather than fail) ſeven Years; but I muſt own I never yet taſted any Cyder, but what was *beſt*, and in the *greateſt Perfection*, the *firſt* Year: I have indeed heard of Cyder, (and particularly ſome *Crab-Cyder*) which is not *drinkable* the *firſt* Year, but *mellows* and groweth excellent the *ſecond* or *third*; but I never had the Pleaſure of making the Experiment; however, (unleſs there be ſome ſuch *ill-natur'd* Cyders as are a *Noli me tangere* the firſt Years) I will venture to ſay the *Royal Wilding* and *Whitſour* will keep good as long as *any other*; tho' I muſt repeat it, they are never *as good* in any of the following Years as they are the firſt.

LET me, to cloſe the Account of theſe two Liquors, aſſure you, that I have heard them *authoritatively* intitled the *Devonſhire Stire*; I have ſeen *Bourdeaux* and even *Burgundy* ſtand *melancholy* and *neglected* before them; and I have heard *White Wine* called for to *cool* thoſe Cyders.

AND ſo much for *Royal Wilding* and *Whitſour*. You deſired to be alſo inform'd of the *Mediate*, or (as our common People pronounce it) *Meadeate*. The Apple itſelf hath been ſent you, and therefore I ſay nothing of its Size, Figure, *&c.* only I muſt tell you (which I ſhould alſo have ſaid of the *Whitſour*) that it is a very *conſtant* and *plentiful* Bearer every *other* Year, and maketh a very handſome (tho' no exceeding large) Tree, nor (if I miſtake not) is it as liable to *Blights* as moſt other Trees are.

THE Juices of it have all the *Body* and *Roughneſs* of the two other Cyders before ſpoken of, and make good Advances to the ſame *Golden* Colour; but, alas! want the *perfecting* and *diſtinguiſhing* Flavour of thoſe Unparallel'ds: Nor when made by itſelf is it ever (or very rarely if ever, and that ſurely not without ſuch Art as I could never yet be a Maſter of) got to be drunk *up*. I did indeed once taſte ſome Cyder ſent to a Gentleman for a Preſent, which was ſaid to be *All* of this Sort, and which might vie with the beſt *Royal Wilding* or *Whitſour*; but had I been to talk with the Maker himſelf, I imagine I ſhould have found there was a Mixture of *other* Fruit with it: This is ſure, that by Means of its *Noble Body*, and excellent *Roughneſs*, it is a moſt *valuable* Apple, and becomes an excellent *Ingredient* in Cyder, eſpecially diſcreetly ſorted with Fruit of a *briſker* and *quicker* Nature.

IT is commonly ſaid to have its Name from a *Meadow Gate*, near which the original Plant (the happy Parent of this *laudable* Apple) firſt ſtood; for in the vulgar Dialect of our Country, we call a Meadow *Mead*, (I know not how to convey to you the true Sound of that laſt Spelling) and by the ſame Way of ſpeaking we call a *Gate* a *Yeate*, (as the Lawyers write *yeoven* for *given*) and theſe Words put together in our common Pronunciation will afford *Meadyate*, which is eaſily paſſed

into *Meadeate*, and that as eaſily into (what the *better* Sort uſually pronounce it) *Mideate*, tho' whether it be the *Fact* or only the *Invitation* and *Facility* of the *Etymology*, that gave occaſion to this Account of it, I cannot take upon me to affirm; only I am *more inclin'd* to think the *latter*, becauſe I never hear the *Farmer*, or *Eſtate*, or *Pariſh*, or even the Part of the *South-Hams* mention'd, (for 'tis ſaid to be originally of that Country) where this *Tree*, or this *Gate*, or this *Meadow* was, or how long ſince it begun to be propagated; all which we can point out of the *Royal Wilding*, as you have before ſeen.

THE Apple hath been long known; it is common in the Orchards of ſeveral *Farmers*, (but of more *Gentlemen*) tho' until of late there were but few of thoſe *Farmers* that ſet any great Value on them.

THESE are the three Sorts of *Apples*, in our County, which do as yet carry the greateſt Reputation for Cyder. You deſire of me further, an Account of ſome *Wildings* of *my own*, which yielded a Liquor that was talked of every where, about three Years ſince; and in that alſo I ſhall endeavour to gratify you. They were the Produce of ſome *Kernels* of the *Red-ſtreak Apples*, which, when fit to be tranſplanted, I ſet round two of the Fields near my Houſe, (ſince turned into Orchards) without ever *Grafting* them: The Generality of them (whether cramp'd by the adjoining Hedges or not, I cannot really ſay) make but a *ſmall* Tree: the Fruit of them is *various*, moſtly very *ſmall*, (as *all Wildings* uſually are, but the *ſmaller* the Apple in Reaſon, the *better* the Cyder, is a conſtant Rule among us) and generally *ſtreak'd* with Red, and many of them (I mean the Produce of ſeveral of the Trees) not very much *unlike*, for from the Kernels of the *ſelf-ſame* Apples, you know we have always very *different* Sorts of Fruit.

BESIDES ſome other *Differences* of *leſs* Note to be obſerv'd in theſe *Wildings*; the Fruit of ſome few of the Trees is conſiderably *larger* than that of the *Generality* of the others, (which like moſt *Wildings* is ſmall) and ſome of them are more ſtreak'd with Red than others are.

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I HAD no Opportunity of making a Trial of them by themſelves, until the memorable Year 1724. and then they afforded me a whole *Pipe* of the Liquor; which, when *Racked* and *Fined*, about *February*, to my no ſmall Pleaſure plainly, in the Opinion, and to the Admiration of every one as well as my ſelf, raviſh'd the Palm from the *Royal Wilding*. It had *every one* of the *Qualities* of that Cyder, and ſome of them to *greater* and *manifeſt* Degrees of Excellency; the *Flavour* of it in particular was *finer* and more *delicate*. A *Name* was therefore to be thought of for this *young Fondling*; and it was well (as you will ſee preſently) this Care was taken at *that* Time: A Gentleman conſulted on the important Occaſion (was well acquainted with Mr. *Woolcombe* before-mention'd) had many Times, to promote Converſation, *rallied* him on the Subject of his new Diſcovery of the *Royal Wilding*, (of which, however, he was a great Admirer) and was now reſolv'd to exceed him in the *Name* of this very Apple, and to leave no Room for him to go *higher*, ſhould he find out any other Apple, or ſhould he be minded to *alter* and *raiſe* the *Appellation* of the *Royal Wilding*: And for this Purpoſe firſt thought of *Imperial Wilding*; but finding Room yet left for Mr. *Woolcombe*, he proceeded to think of *Cœleſtial Wilding*; and becauſe he thought there might be yet an Ope left for Mr. *Woolcombe* to *exceed that*, he at laſt ſettled in *Super-cœleſtial, Fig.* II. *Plate* LXXVIII. and there reſted ſecure, as Mr. *Prior* did in his own Pedigree from *Adam* and *Eve*,

Let Bourbon *or* Naſſau *go higher.*

NOR are you to be ſurpriz'd if you think this Title ſet it above the celebrated *Nectar* which was in thoſe upper Regions formerly drank by the Gods themſelves: for beſide that, if the Truth was known, I am ſatisfied none of them ever drank a Drop of ſuch Liquor in their Lives: You are to conſider theſe were *Heathen Gods*, and therefore we did not make the leaſt Scruple to affront them. This you may believe created a *Smile*: but afterward another Gentleman, in Alluſion to the Name of my Houſe, (which is *Pynes*) and to the common Story of the *Weſt-India Pyne Apple*, which is ſaid to be the *fineſt* Fruit in the *World*, and to repreſent *every other* fine and exquiſite *Flavour* that is known, determin'd it ſhould be called the *Pyne Apple*: and by either of theſe Names

Names indifferently it is talked of, (for, alas! it is long ſince drank out, nor hath any other bountiful Year as yet yielded ſuch a Supply) when Pleaſantry and Converſation bring the Remembrance of it on the Table, which will ever be done until ſome happy Seaſon ſhall again bring more of the Liquor it ſelf there.

I HAD almoſt omitted to tell you, that Mr. *Woolcombe* himſelf was ſummon'd to the Conteſt betwixt this *upſtart Wilding*, as he thought it, and his own *Royal* one. The Suprize (and even almoſt *Silence*) with which he was ſeized at firſt taſting it, was plainly perceiv'd by every one preſent, and occaſion'd no ſmall Diverſion: He did not roundly pronounce it better than the *Royal Wilding*, but he ſpent a great deal of his *Cyder Knowledge* in ſhewing the Reaſons why it might well be expected that the Juices of this *Collection* of Wildings, ſhould be preferable to that made from any *ſingle* Wilding, ſo *great* is the Force of *Truth*: And this was *all* that was *inſiſted* on (and *more* than was *expected* from him) at that Time, as well in regard to the Allowances there ought to be made to the *Piety* of being *Fond* and *Tender* of one's *own* Progeny, as to his *real* Merit in having diſcover'd and promoted that other *admirable* and *moſt excellent* Apple.

IN the mean time I muſt now honeſtly detract from theſe Triumphs of my *own* Wilding, and let you know why I ſaid it was *happy* that the *Cœleſtial* Title was aſſigned to it in the *Juncture* of its being in the *Cask*: for after it was *Bottled*, and the Advance of the Year had rais'd it, the Juices appeared *thinner* than thoſe of the *Royal Wilding*. It partook too much of the *Rarefaction* of thoſe Superior Regions from whence it had luckily before gotten its Name: It continu'd indeed *very excellent* and *admirable* Cyder, but was too *brisk*, or rather, if you will, *frisking*, whilſt the *Royal Wilding* preſerv'd all its Native *Majeſty* and *Solemnity*; and from that Time was re-eſtabliſh'd in the *full* and *peaceable* Poſſeſſion of the *Throne*, to the no ſmall Comfort of Mr. *Woolcombe*.

YOU will your ſelf take Notice, that the Cyder from *my Wildings* cannot be promoted as the *Royal Wilding* hath been, becauſe this latter being but a *ſingle* Apple, became eaſily propagated; whereas to make this Cyder of *mine*, one Graft from each Tree in the *Collection* muſt be had,

had, and put on : Whether any one of theſe *ſingly* would make *ſuch* Cyder, I much queſtion, (that it would make *very good* I do not doubt) nor can I ſay whether among them there may be *one* or *more*, which, if tried *ſeparately*, might afford a Juice *equal* (or *ſuperior*) to that of any other Apple hitherto known : I have not yet *examin'd* them ſo *exactly* as to find any Reaſon for ſingling out any of them to make ſuch *Experiment*, or if I had, you know it muſt be a long Courſe of Years to diſcover the Event.

I HAVE lately planted out two Orchards with *Wildings*, from the Kernels (or *Pips* as we call them) of the *Royal Wilding*, but the Trees are ſo very ſmall, that they have not yet afforded me Opportunity for an *Experiment* : The Fruit that any of them have hitherto ſhewn, ſeems to lay a good Foundation for *Expectation*. *Wildings* of one Sort or another, will, for the future, be I believe chiefly cultivated among us ; and would Gentlemen ſow the Kernels of the *Red-ſtreak* in particular, as I did, I ſee not why they might not reaſonably promiſe themſelves the *like* Succeſs ; and would they now and then give themſelves the Trouble to promote any one of their *Wildings*, that to the *Taſte* ſeemeth to bid fair beyond others of them for excellent Cyder, I know not what *Diſcoveries* might be made for *New Cyders* ; for who can ſay that there may not be in the *Fruitful* Womb of *Pomona*, an Offspring that may *equal*, or even *exceed*, the *Royal Wilding* or *Whitſour* themſelves, ſince the Sorts of *new* Apples that are to be raiſed from *Kernels*, are, as I before ſuggeſted, plainly *Numberleſs*.

TO make this Account of our Cyders as complete as I can, I muſt in the laſt Place mention to you *another* Sort, which hath not been heard of among us more than ſix or ſeven Years : The Name of it is *Cockagee*, or *Cackagee*, (for the Word, as far as I can learn, is *Iriſh*, in which I, as well as you, am no Critick) : The Fruit is *originally* from *Ireland*, and the Cyder much valued in that Country : About ſixteen or eighteen Years ſince (if I am rightly informed) it was *firſt* brought over, and promoted about *Minehead* in *Somerſetſhire*. Some Gentlemen of that County have got enough of it now to make five, ſix, or eight Hogſheads a Year of the Cyder ; and ſuch as have to ſpare from their own Tables, ſell, I am told, from four to eight Pounds an Hogſhead.

A GENTLEMAN favour'd me ſo far as to bring ſome of the Apples from *Ireland*, but by the time I had an Opportunity of ſeeing them, they were ſo decay'd, that I cannot deſcribe them to you. The Cyder is of the *Colour* of *Sherry*, (or rather of *French White Wine*) and every whit as *fine* and *clear*: I have taſted of it from two ſeveral Orchards of *Somerſetſhire*; and the Gentlemen juſt now mention'd brought ſome of the *Cyder*, as well as the *Apples*, from *Ireland*: It hath a more *vinous* Taſte than any Cyder I ever drank; and as the *Sight* might deceive a *curious* Eye for Wine, ſo I believe the *Taſte* might paſs an *incurious* Palate for the *ſame* Liquor. It ſeemeth alſo to be very *ſpirituous*, and would I believe, if experimented, ſoon *intoxicate*, but wanting the generous *Roughneſs*, and even the *fine* and *delicate Flavour*, (notwithſtanding its *vinous* Reliſh) as alſo the *full Body* of our *Royal Wilding* and *Whitſour*; it is, in my Opinion, (and in that of far the greater Part of thoſe Gentlemen I have ever talked with) by many Degrees *inferior* to thoſe Cyders of our County, and particularly leſs *acceptable* to the *Palate*, and leſs *grateful* to the *Stomach*.

I HAVE lately put on ſome Grafts of them, but not enough (nor have they yet Time enough) to enable me to try what Cyder they will make *with me*. I may perhaps another Year ſet on more of them, but I aſſure you for *Curioſity* only, and becauſe the Cyder is talked of; not for any other Uſe I ever intend to make of them. *I am*,

Pynes, November 10, 1727.

Your moſt obliged Friend,

and humble Servant,

HUGH STAFFORD.

FINIS.

Plate I.

Fig. VI.

a Cirv. perpend.

Fig. V.

for Stock guiding.

Fig. I.

a Cirv. perpendr.

for Spike guiding.

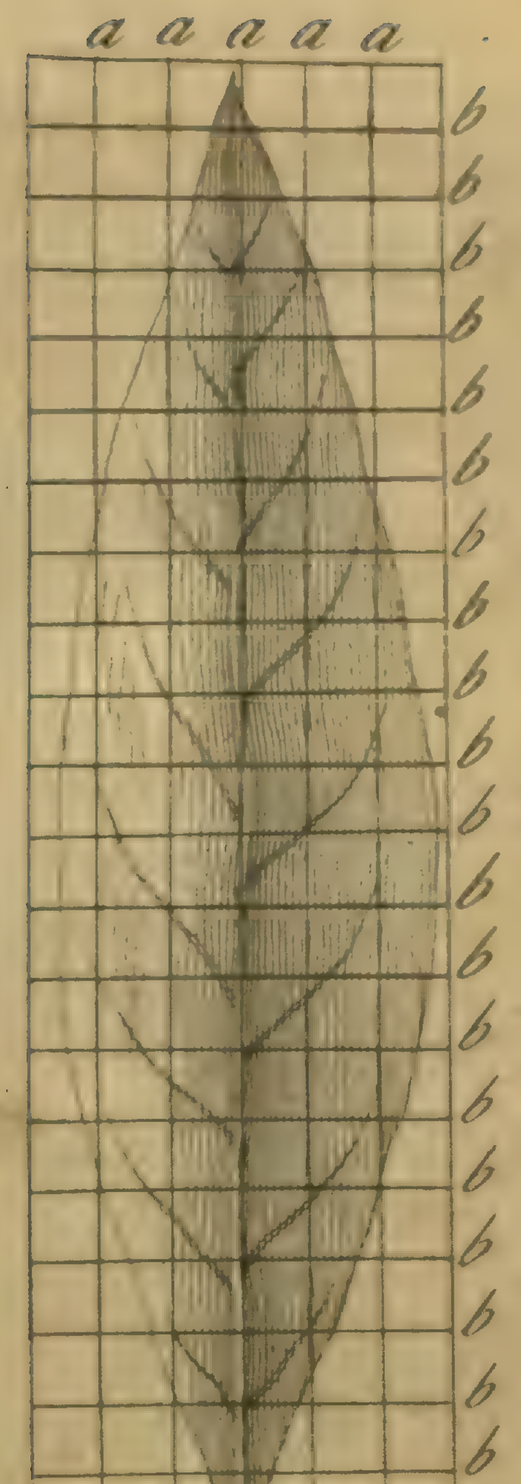

a a a a a
b
b
b

Plate II.

Jargonel
March 26. 1727.
Fig. I.

Autumn Bergamot
March 26. 1727.
Fig. II.

Fig. III.

Winter Buree *March 26. 1727.*

Fig. III

Summer Bergamot
March 26. 1727.

Fig. V.

Messire John *March 26. 1727*

Fig. VI.

Albemarle Peach *in Blossom March 10. 1727.*

Plate III

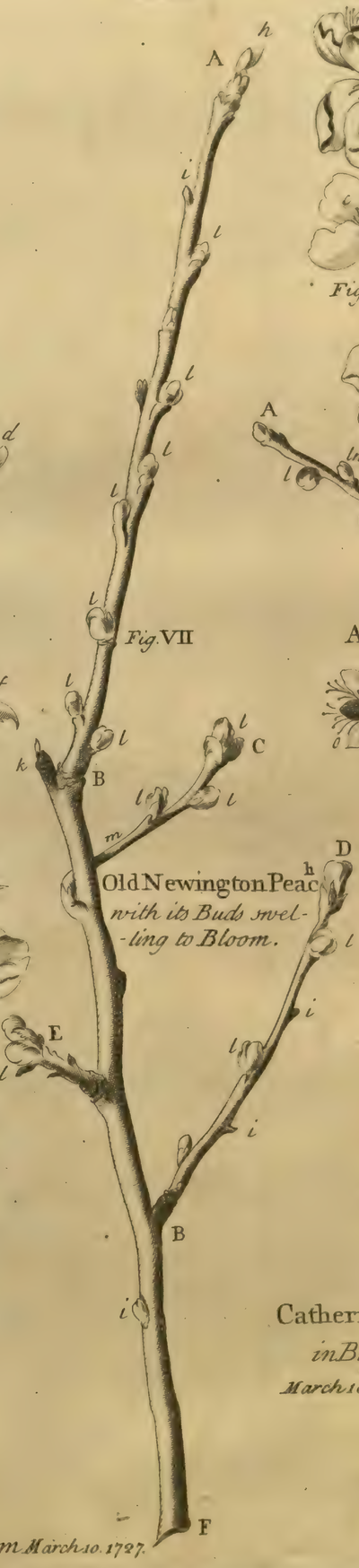


Fig. VII

Old Newington Peach
with its Buds swelling to Bloom.

Old Newington Peach *in full Blossom*
March 10. 1727.

Fig. IX

Fig. X.

Catherine Peach *with its Buds swelling to Bloom.*

Fig. VIII

Catherine Peach
in Blossom
March 10. 1727

B. Langley *Hortulanus et Architectus*

May Cherry
Second Year

Fig V

May Cherry

Fig III

Holmans Duke

Fig III

White Heart

Fig II

Black Heart

Fig I

Plate IIII

Plate V

Carnation

Fig III

Morello

Fig III

Carnation

Fig II

May Duke

Fig I

This Branch Exhibits How Nature by an Early Expansion of the Leaf Buds a.a.&c. attracts Nourishment for the Support of the Blossoms at B. B. &c.

Plate VI.

Fig: I.

The last years shoot of the Portugal Quince, Expanding its leaves. April 10. 1727.

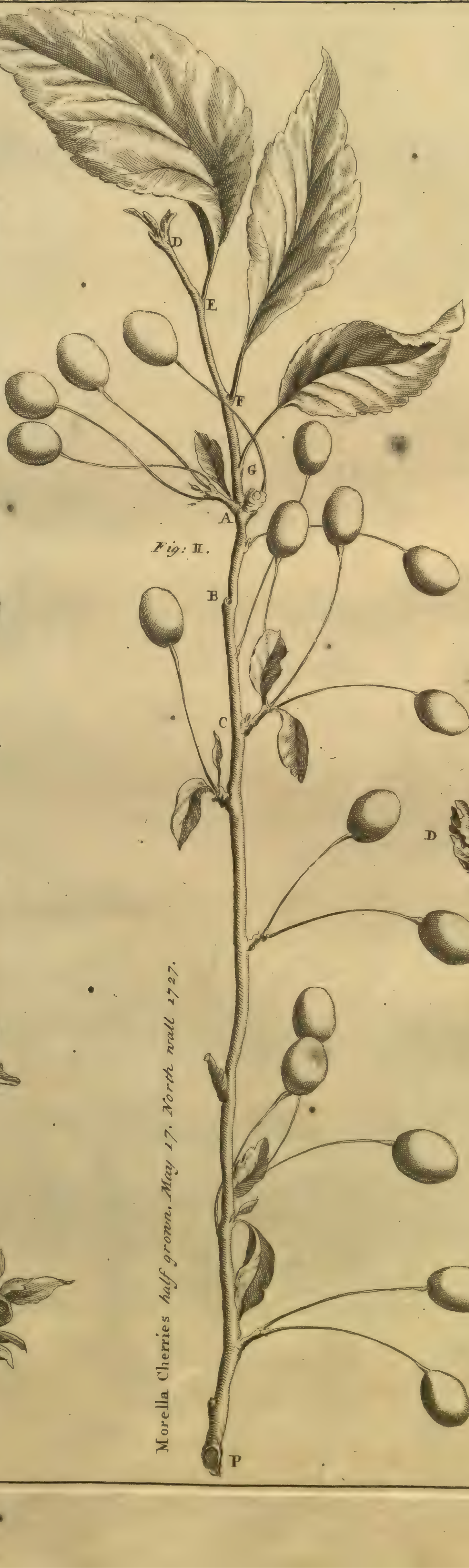


Fig: II.

Morella Cherries half grown. May 17. North wall 1727.

Fig: III.

Barren buds. a a a a on the last years shoot.

March 26 two years wood coming into Blossom.

T. Bowles Sculp.

Plate VII

Fig. I.

Non-pariel *Apple in Blossom, April 20. 1787.*

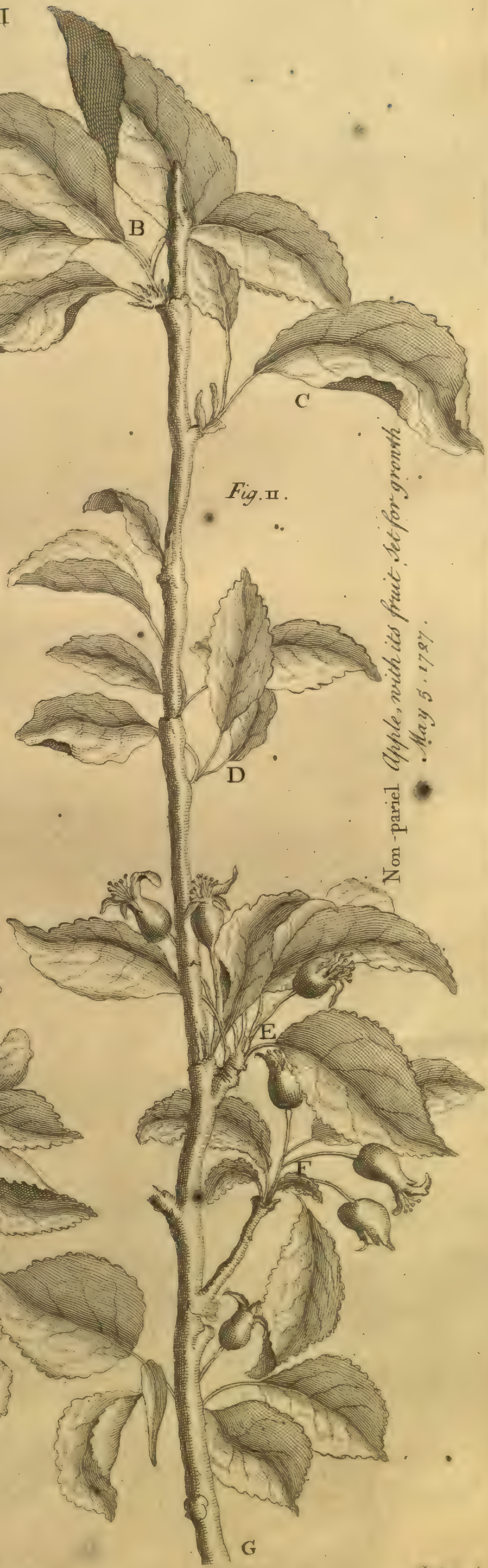


Fig. II.

Non-pariel *Apple, with its fruit set for growth May 5. 1787.*

Imparatrice Plumb
March 26. 1727
South wall.

Fig. VII.

Old Newington.

March 10. 1727

Fig. VI.

Late Admirable Peach *March 10. 1727*

Fig. V.

April 20. 1727
Old Newington Peach

Fig. IV.

March 10. 1727

Fig. III.

Orange Apricot

White Muscadine *grape Expanding its leaves*
in the Spring

Fig. II.

an Im-matur fruit
a yearly Shoot of the White Fig

Fig. I.

Plate IX.

Plate X.

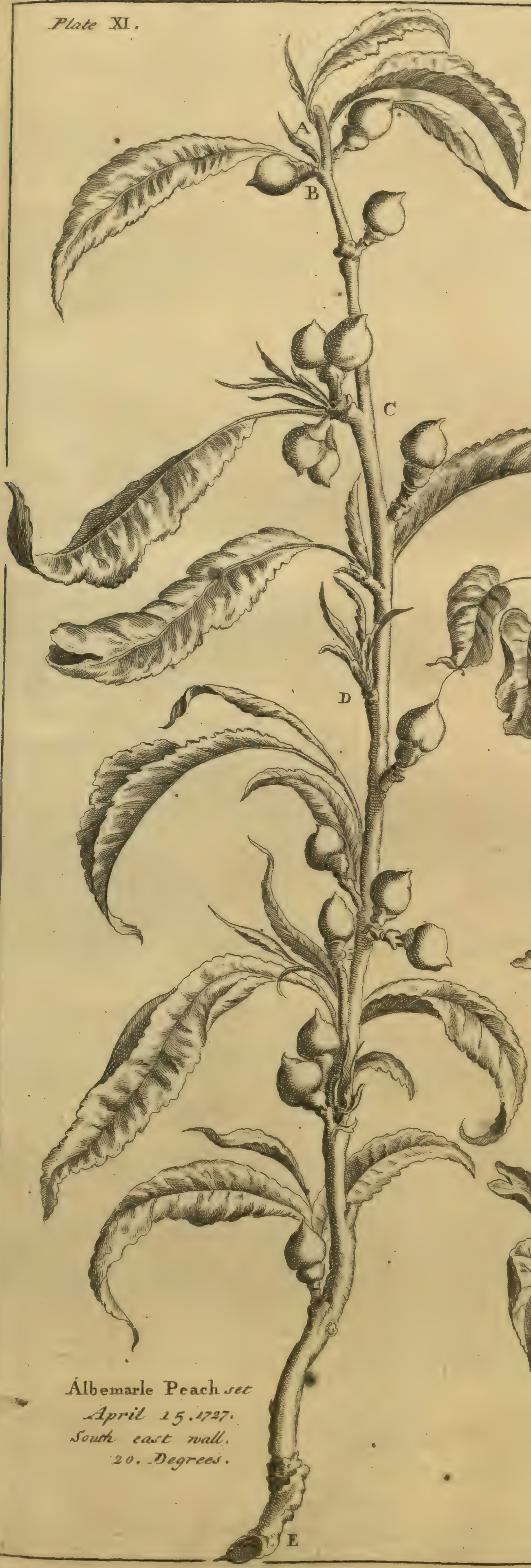
Fig: I.

White Fig. *set for growth.*
April 12. 1728.

Fig: II.

White Muscadine Grape *in Blossom*
May 1. 1728 South wall

Plate XI.



Albemarle Peach *set*
April 15. 1727.
South east wall.
20. *Degrees.*

Roman
Apricot. *set.*
March 26. 1727.
south wall.

T. Bowles Sculp.

A
B
C
D
E
F
G
H
White Heart Cherry, *in Blossom, April 20. 1727.*
Standard.

Fig. I.

K
L
M
N
O
P
Flemish Cherry, *in Blossom April 20. 1727. Standard.*

Fig. II.

A
B
C
D
E
F
G
H
I
Morella Cherry, *in Blossom. March 28. 1727. North Wall.*

Fig. III.

A
B
C
D
E
Corone Cherry, *in Blossom. March 26. 1727. West Wall.*

Fig. IIII.

A
B
C
D
E
F
Codling, *in Blossom. April 10. 1727.*

Fig. V.

Orange Apricots, *to be thind as those of Fig: II. April. 25. 1727. South east Wall*

Fig. I.

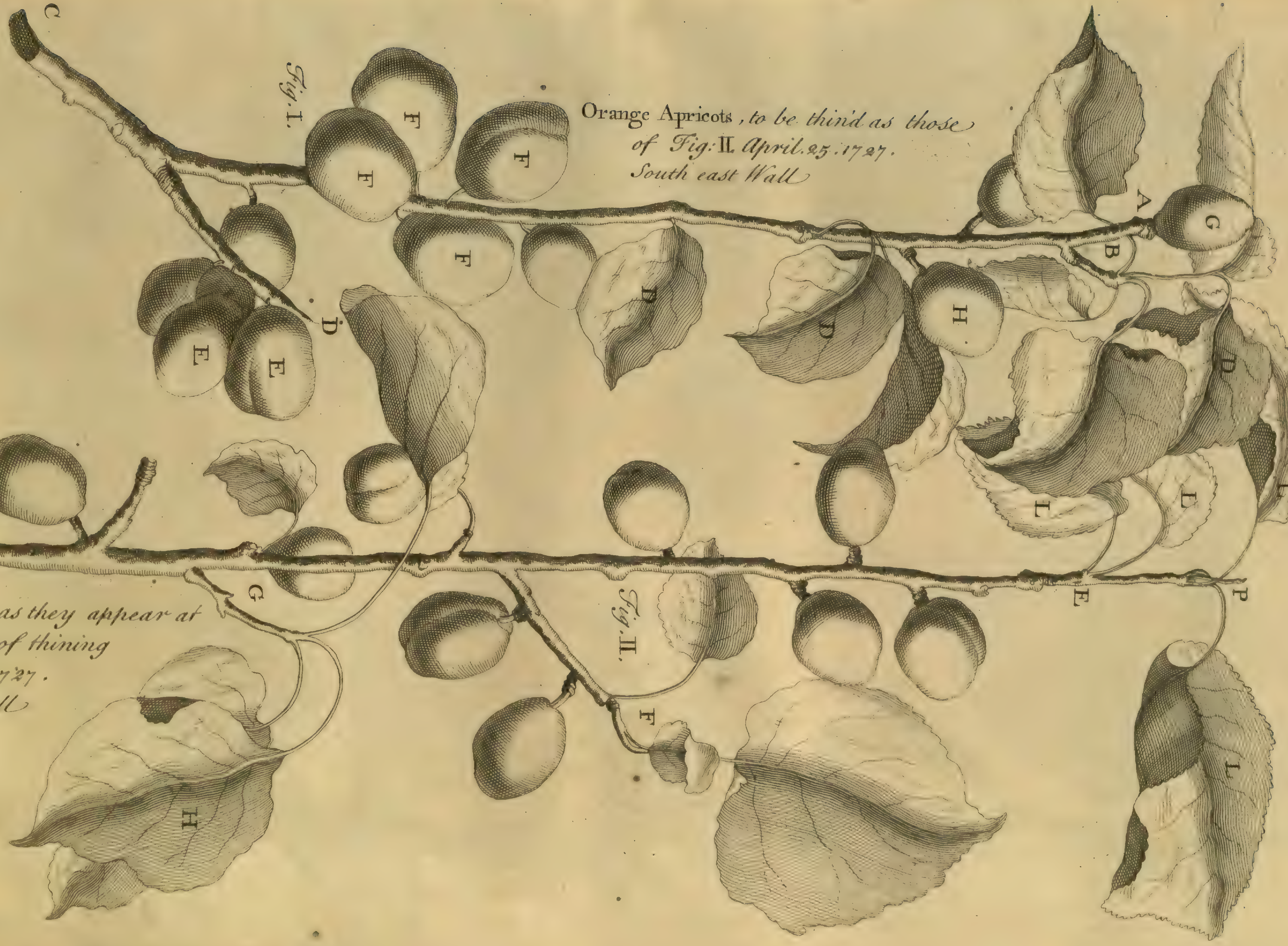


Fig. II.

Orange Apricots, *as they appear at the first time of thining April. 25. 1727. South east Wall*

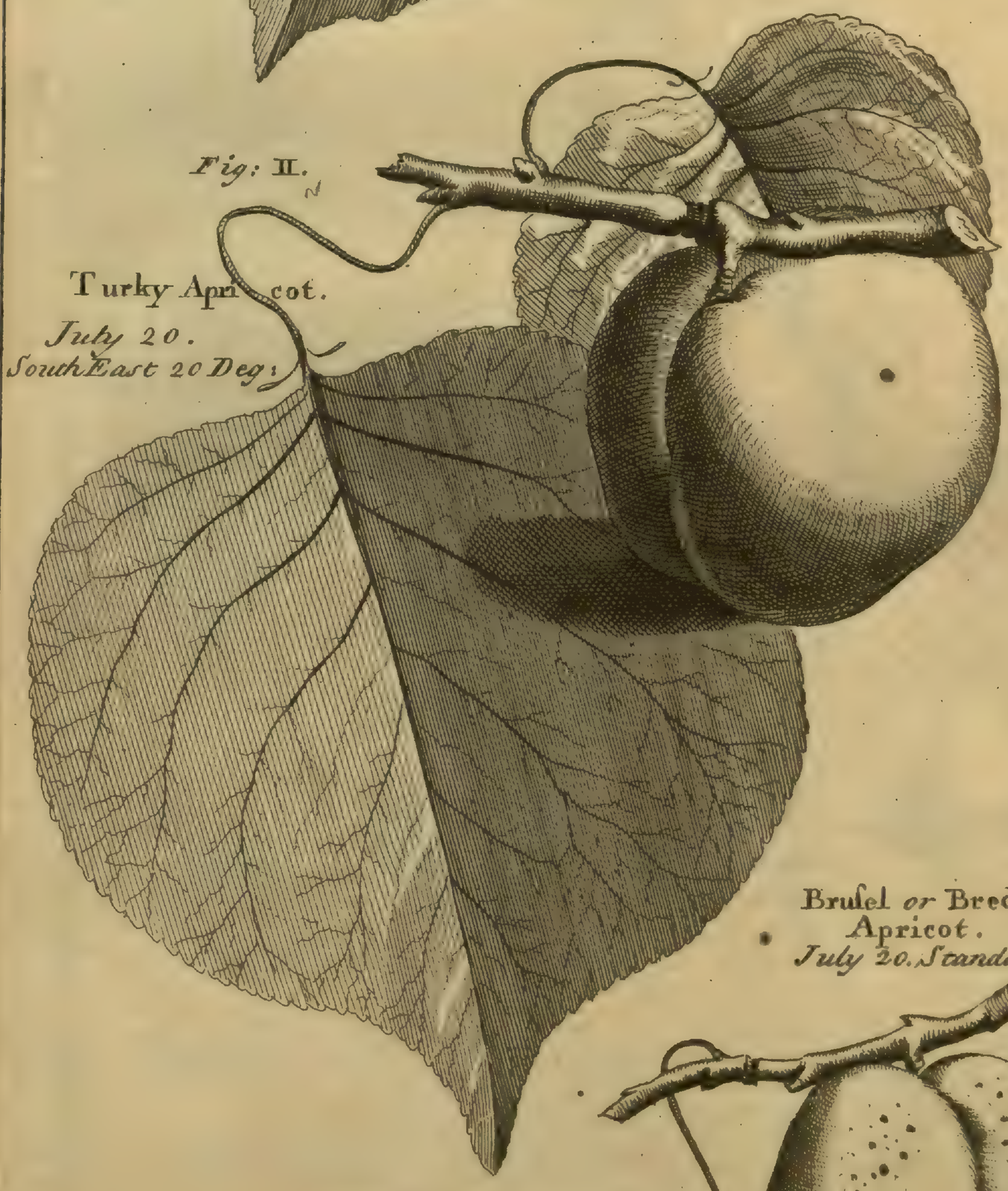
Plate XIV

Plate XV.

Malculine Apricot.
May 20. South wall
Fig: I.

Fig: II.

Turky Apricot.
July 20.
South East 20 Deg:



Roman Apricot. *ripe July 1. S.E. wall. 20. Deg:*
This Branch Exhibits the Distances, that the
several kinds of Apricots, should ripen at on y^e Tree
vide their Description.

Brusel *or* Breda.
Apricot.
July 20. Standard.

Fig: III.

B. Langley Delin:

Bowles Sculp.

Fig. I.

Corone,
June, 20.
1727

Morello, 14.
June, 10.

Fig. II.

Carnation, June 10

Fig. III.

Holman's Duke
May. 10.

Fig. I.

Plate XVII

May Cherry
April 25 1727

Fig. II.

Duke,
May. 20.
1727
Fig. III.

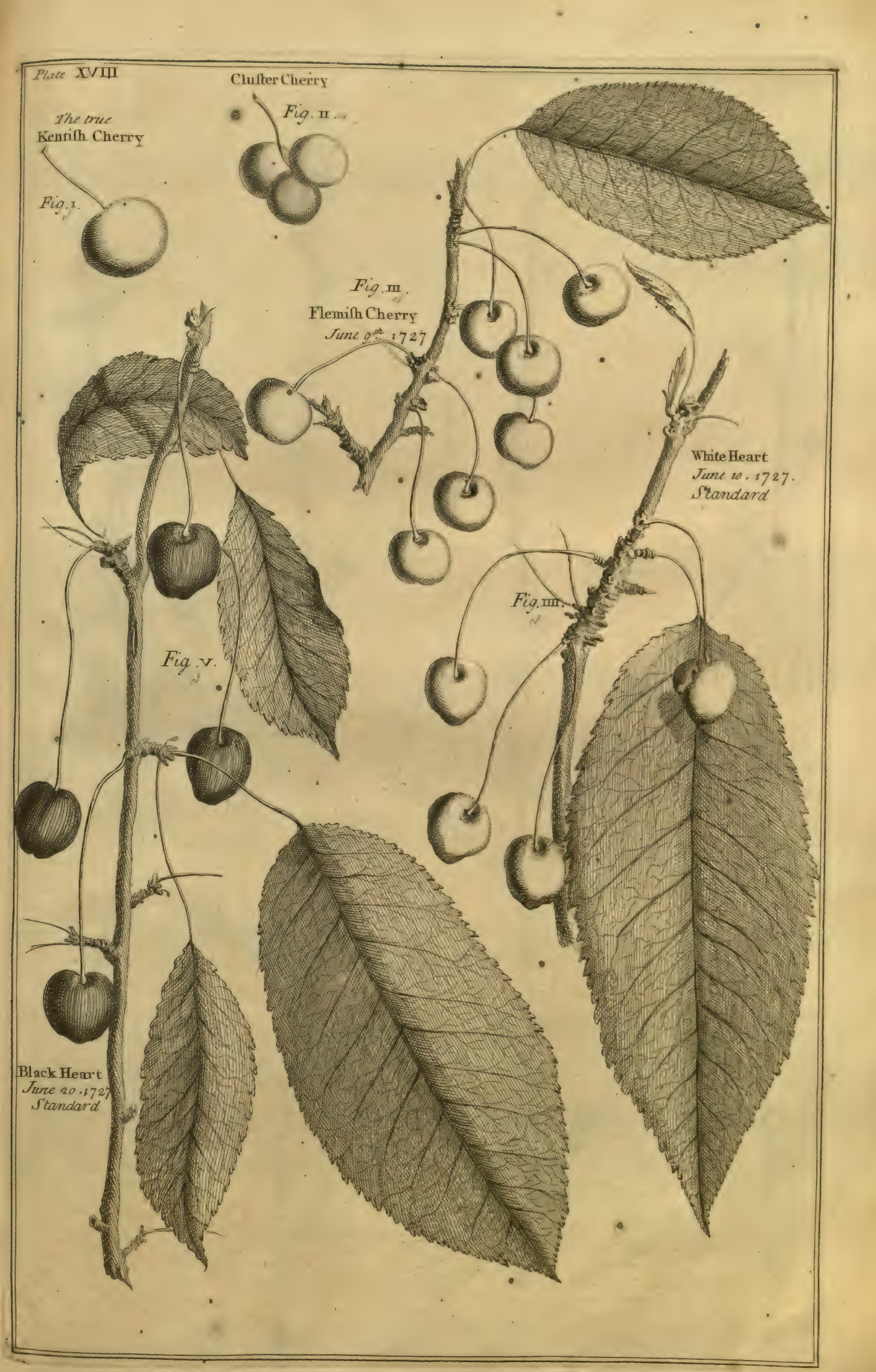
Fig. III.

Gascoign Cherry
June. 5. 1727

Bleeding
Heart.
June. 5th. 1727

Fig. V.

Plate XVIII


The true
Kentish Cherry
Fig. I.
Cluster Cherry
Fig. II.
Fig. III.
Flemish Cherry
June 9th 1727
White Heart
June 10. 1727.
Standard
Fig. IV.
Fig. V.
Black Heart
June 20. 1727
Standard

Roman Apricot, *in Bud. Exhibiting the Reasons of Pruning.*

Fig: 1.

Orange Apricot *in Bud. Exhibiting the reasons of pruning.*

Fig: 2.

One Years wood of the Ieanhative plumb. *Exhibiting the reasons of pruning.*

Figs.

Two Years wood of the London plumb. *Exhibiting the blossom buds &c.*

Fig. 4.

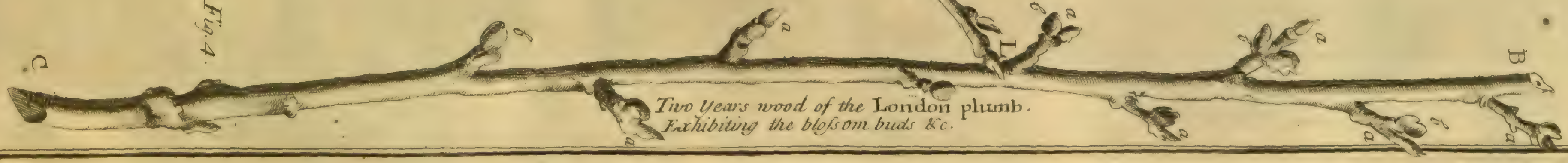


Plate XX.

Primordian
July 1.

Fig: II.

Jean Hative *June 9.th*

South East wall 30 Deg

Fig: I.

Morocco.
July 14. *E. Wall.*

Fig: III.
N

Orlean's *July 10.*

S.W. wall 40 Deg:

A

B

Fig. III.
N

Imperial
July 15
N.W. 45. Deg:

Fig: V.
N

Fotheringham
or *Sheen Plumb.*
July 14 S.E. wall 20 Deg:

Fig: VI.
N

Violet *July 15.* *West Wall.*

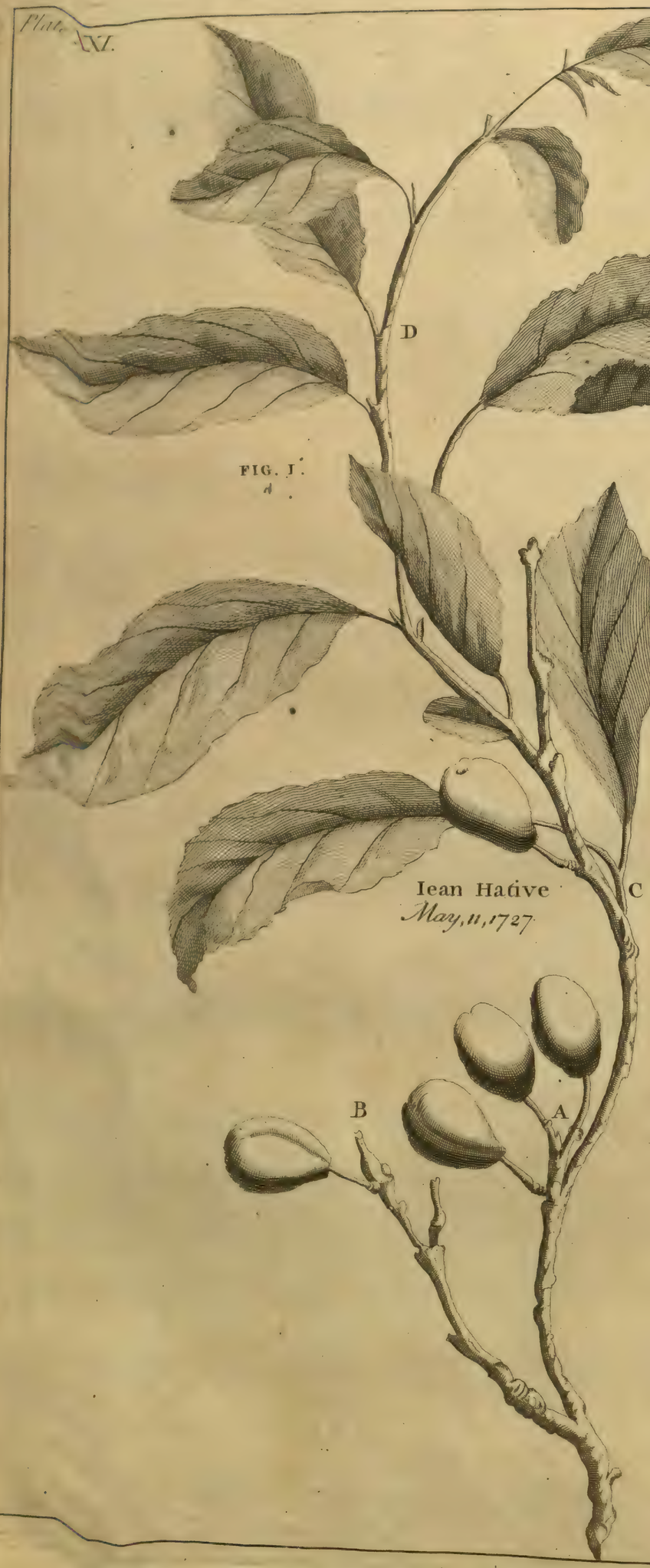
Fig: VII.
N

La Royal
July 20
S.E. 40 Deg.

Fig: VIII
N

B. Langley delin:

Bowles Sculp


D
FIG. I.
C
Iean Hative
May, 11, 1727
B
A

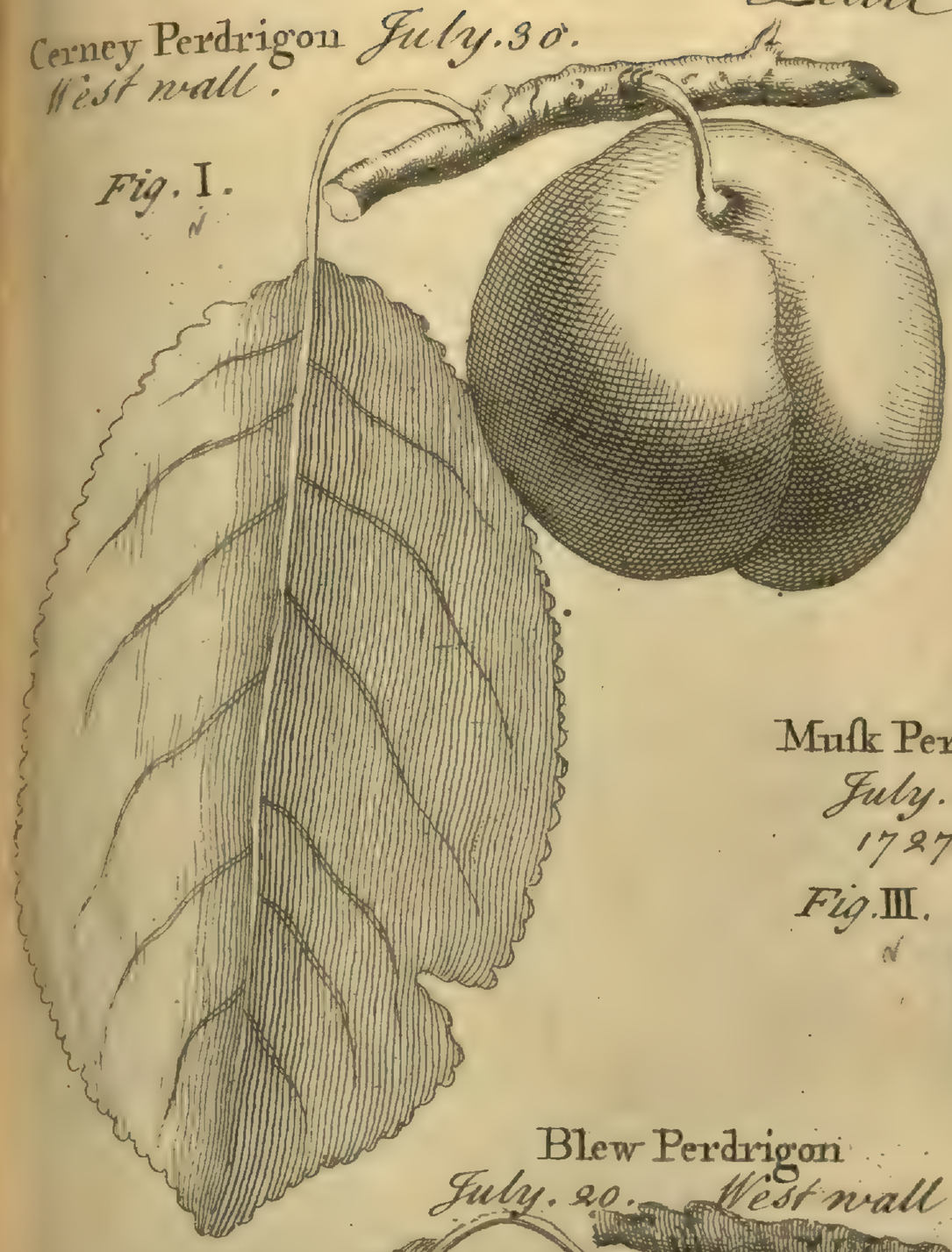
A
FIG. II.
D
E
F
Bonum Magnum
May, 11. 1727.
B

FIG. III
Winter Thorne
May 3. 1727.
B
D
FIG. III
C
Primordian
May, 11. 1727.

Plate XXIII.

Cerney Perdrigon
July. 30.
West wall.

Fig. I.

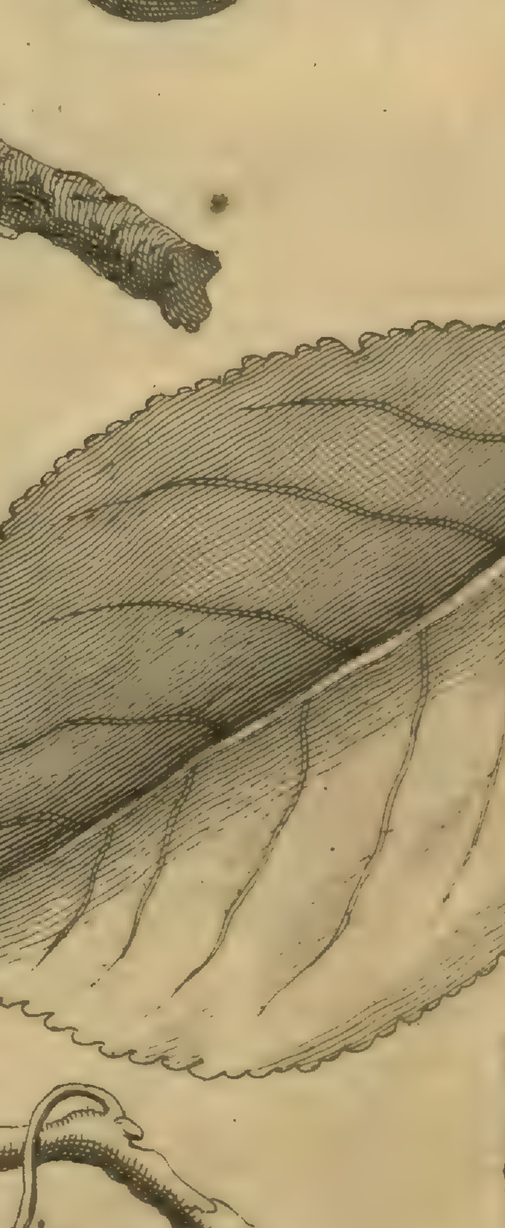


Chefton Plumb.
July. 15. West wall

Fig. II.

Musk Perdrigon
July. 20.
1727

Fig. III.



Blew Perdrigon
July. 20. West wall

Fig. IIII.

Fig. V.

White Perdrigon
Aug.t 1
West wall

Maitre Claude
July. 23. South east Wall

Fig. VI.

Fig. VII.

Reine Claude
Aug. 8.
West wall.

Fig. VIII.

White Mirabile *July. 20. 1727.*
on a Standard.

B. Langley Delin.

Plate XXIIII.

PLUMPS.

White Matchleſs.
July 24.
West wall.

Fig: I.

Black Damoſine. *July* 25.
East wall.

Fig: II.

Fig: III.

Queen Mother.
Aug.t 12.
South wall.

Green gage *July* 30.
East wall

Fig: IIII.

Drab'dor.
July 20.

Fig: V.

St. Catherine
Aug.t 12. *S.E.* 20 *Deg.*

Fig: VI.

Fig: VII.

Yellow Diapree
Aug.t 6. *East wall*

B. Langley delin:

Bowles Sc.

Plate XXV.

White pear plumb
Aug.t 30. North-wall.

Fig: I.

Black pear plumb
Oct. 10. Standard.

Fig: II.

Imparatrice
Sep. 10.
S.E. wall
40. Deg.

Fig III

Wentworth plumb
Aug.t 20.
S.E. wall
20 Deg:

Fig: IIII.

Turky Plumb.
July 20. South wall.

*Fig:*V.

Mogule.
Aug.t 20.
S.E. wall
20 Deg.

*Fig:*VI.

B. Langley delin:

T. Bowles Sc.

Plate XXVI

Fig. I.
Rasberry *in Blossom*
May. 11.

Catherine *Peach*
May. 3. 1727.

Fig. II.

Fig. III.

Virgoulee *Pear*
May. 10. 1727.

Fig. IV

Published as the Act directs 1st March 1728 by Peter Gualtier.

Plate 27.

White Nutmeg
June 15. 1727
S. Wall
Fig. I.

Annpeach
July. 20. 1727.
S. Wall
Fig. II.

Roz anna.
July. 20. 1727. S. W. Wall.
Fig. III.
A

Tuteondvenice
July. 20. 1727. S. W. Wall.

Fig. IIII.

Red Magdalene,
July. 20. 1727. S. Wall.
Fig. V.

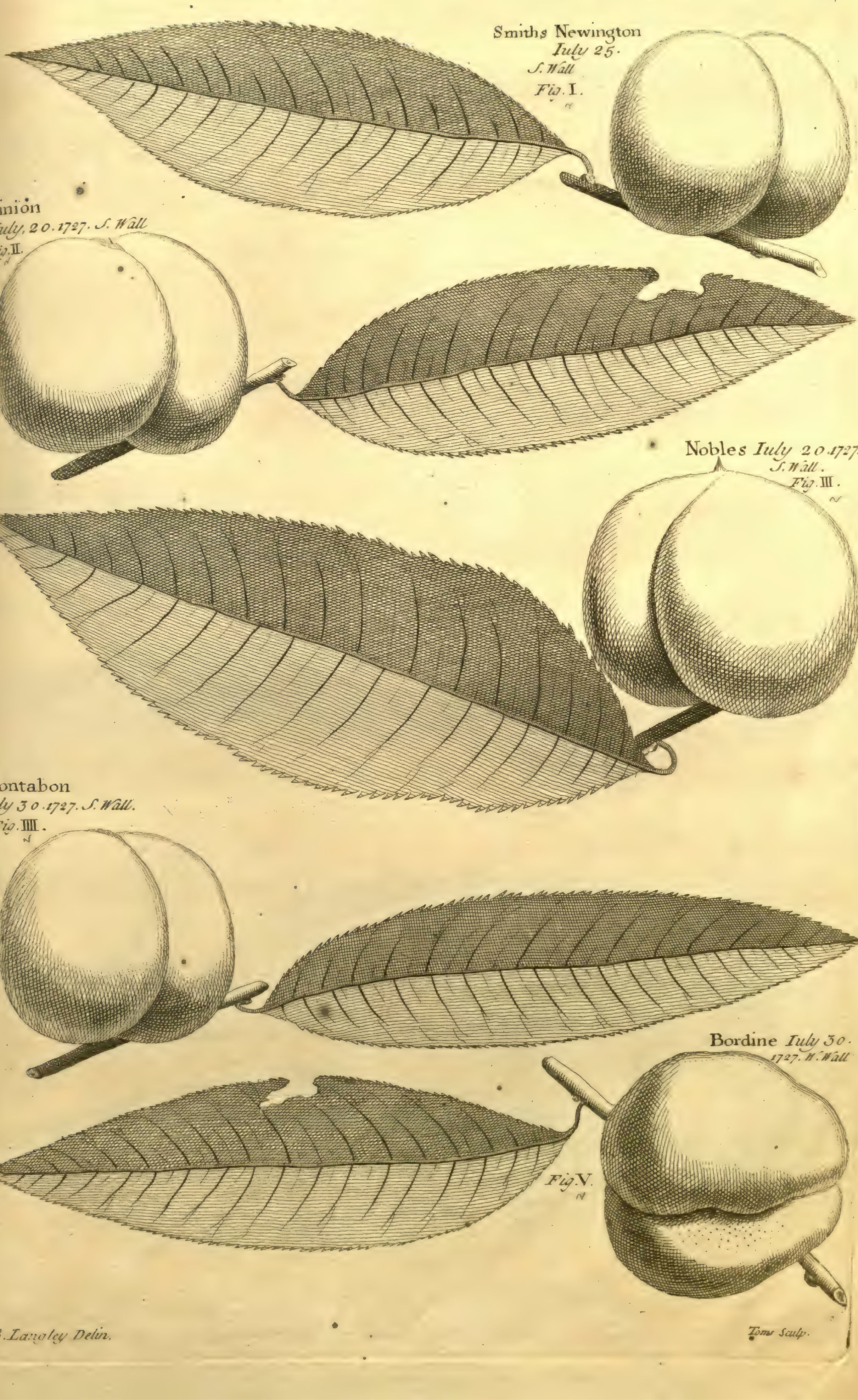
White Magdalene
July. 20. 1727. W. Wall.
Fig. VI.

B. Langley Delin.

Tims Sculp.

Plate 28

Smiths Newington
July 25.
S. Wall
Fig. I.



Minion
July. 20. 1727. S. Wall
Fig. II.

Nobles *July 20. 1727.*
S. Wall.
Fig. III.

Montabon
July 30. 1727. S. Wall.
Fig. IIII.

Bordine *July 30.*
1727. S. Wall
Fig. V.

B. Langley Delin.

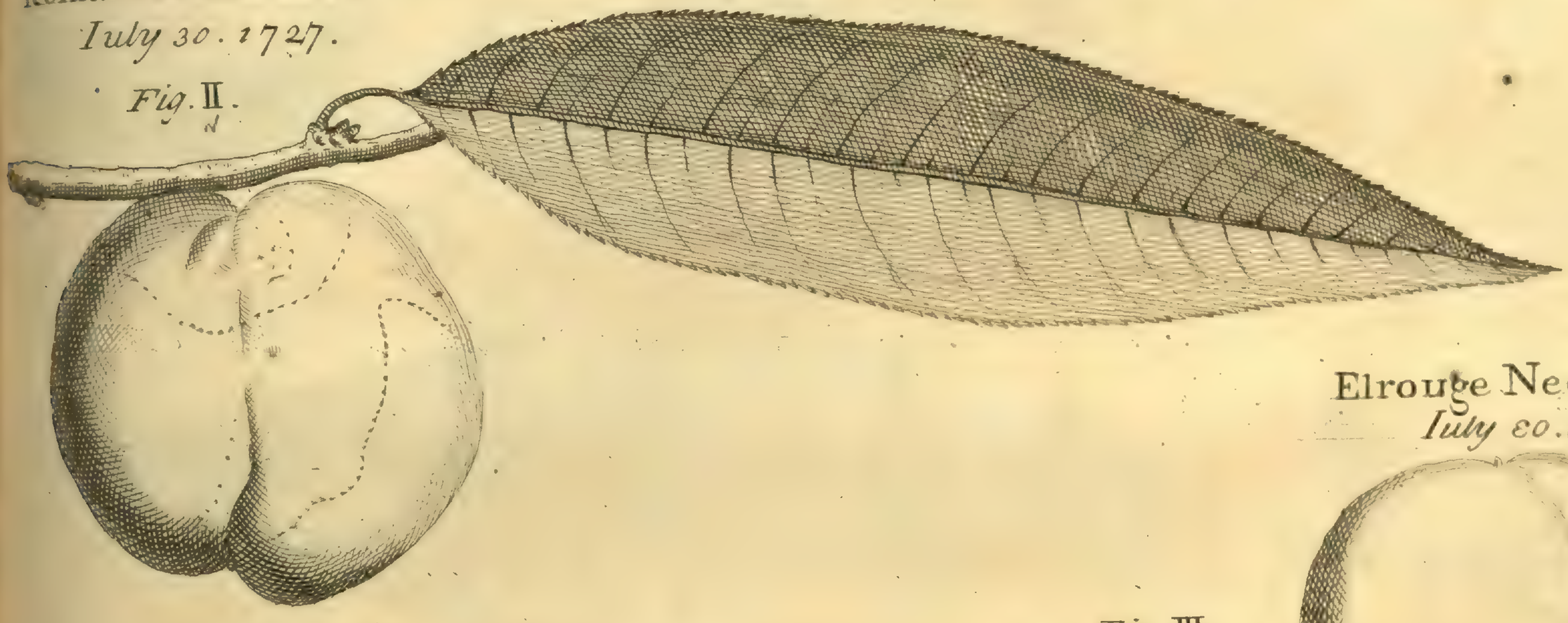
Toms Sculp.

Newington Nectorine
Aug. 1 : 1727.

Fig. I.

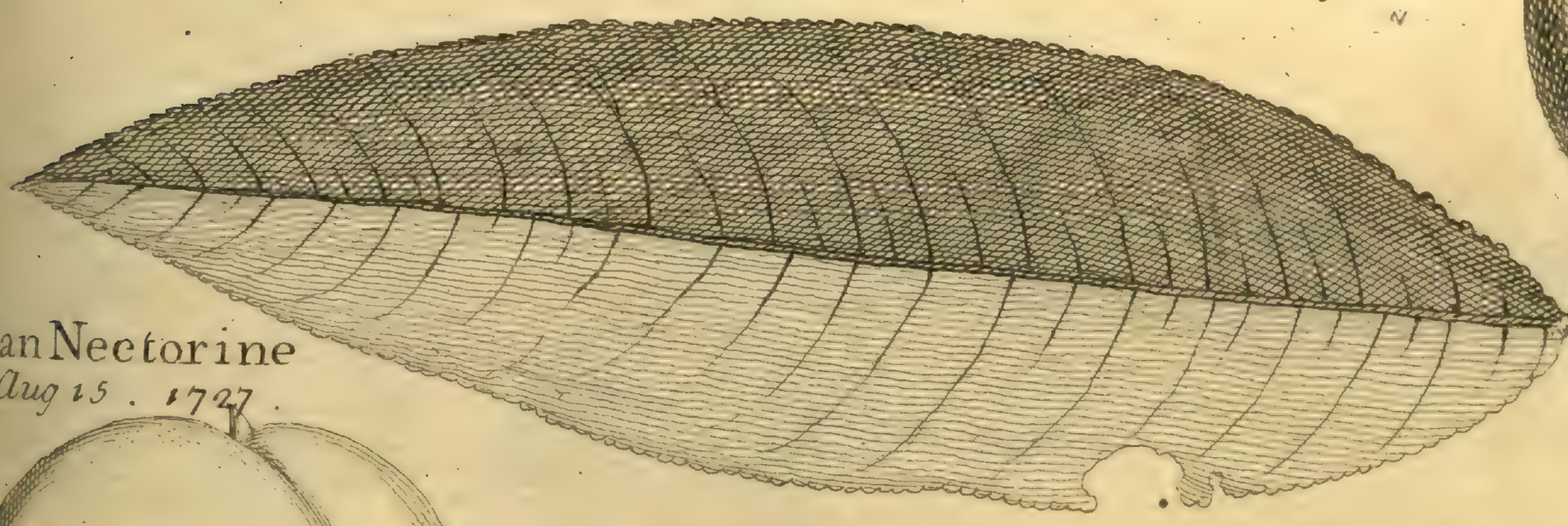
Roman Nectorine
July 30. 1727.

Fig. II.



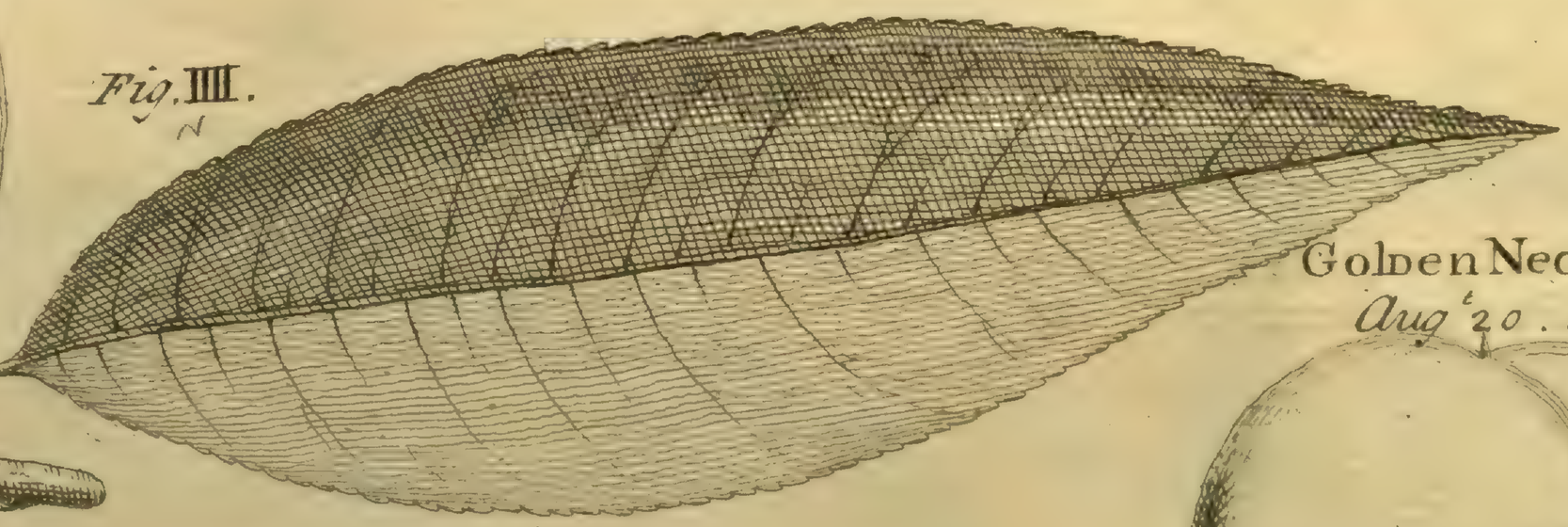
Elrouge Nectorine
July 30. 1727.

Fig. III.



Italian Nectorine
Aug 15. 1727.

Fig. IIII.



Golden Nectorine
Aug. 20. 1727.

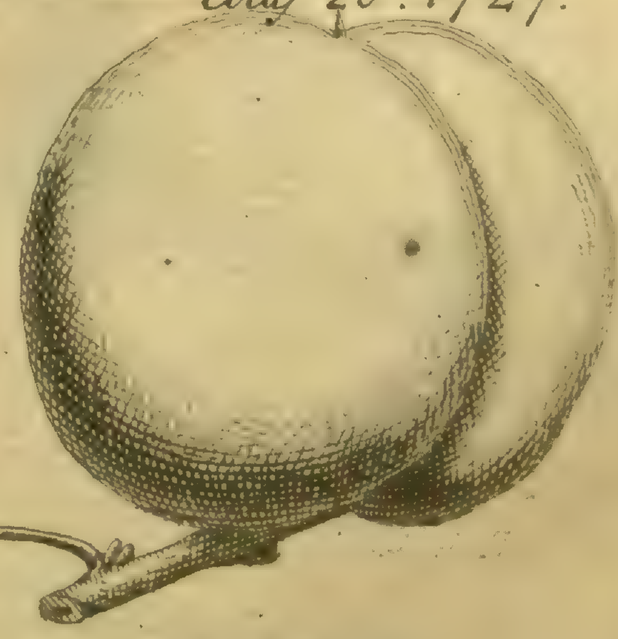
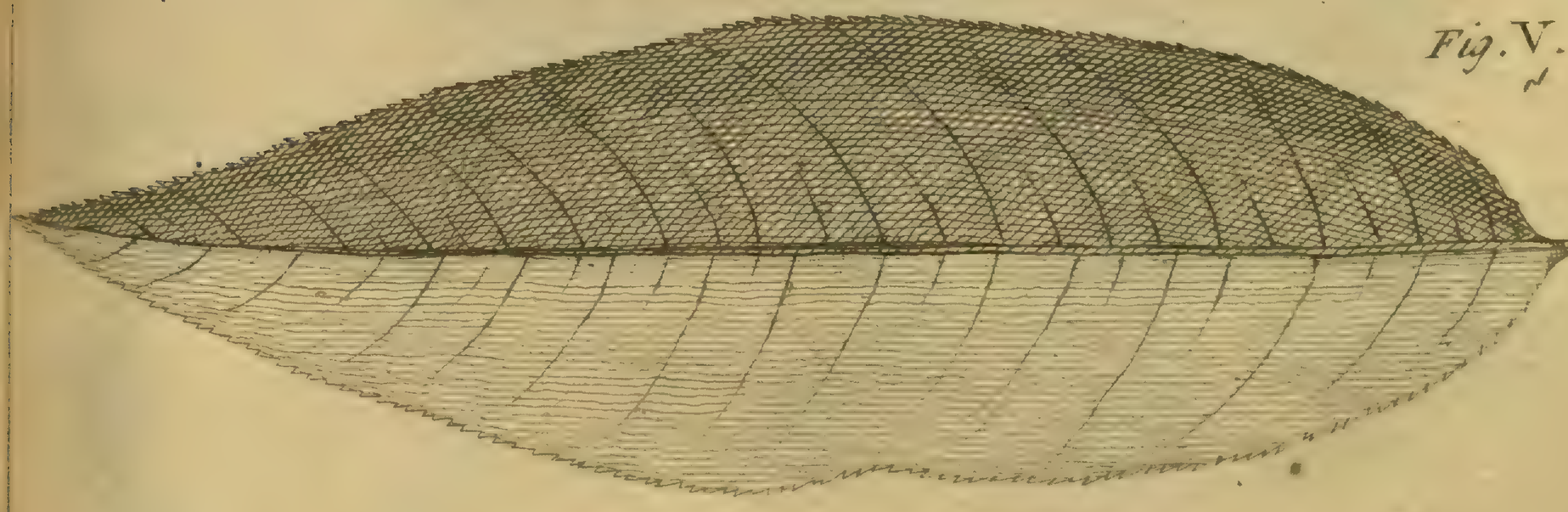


Fig. V.

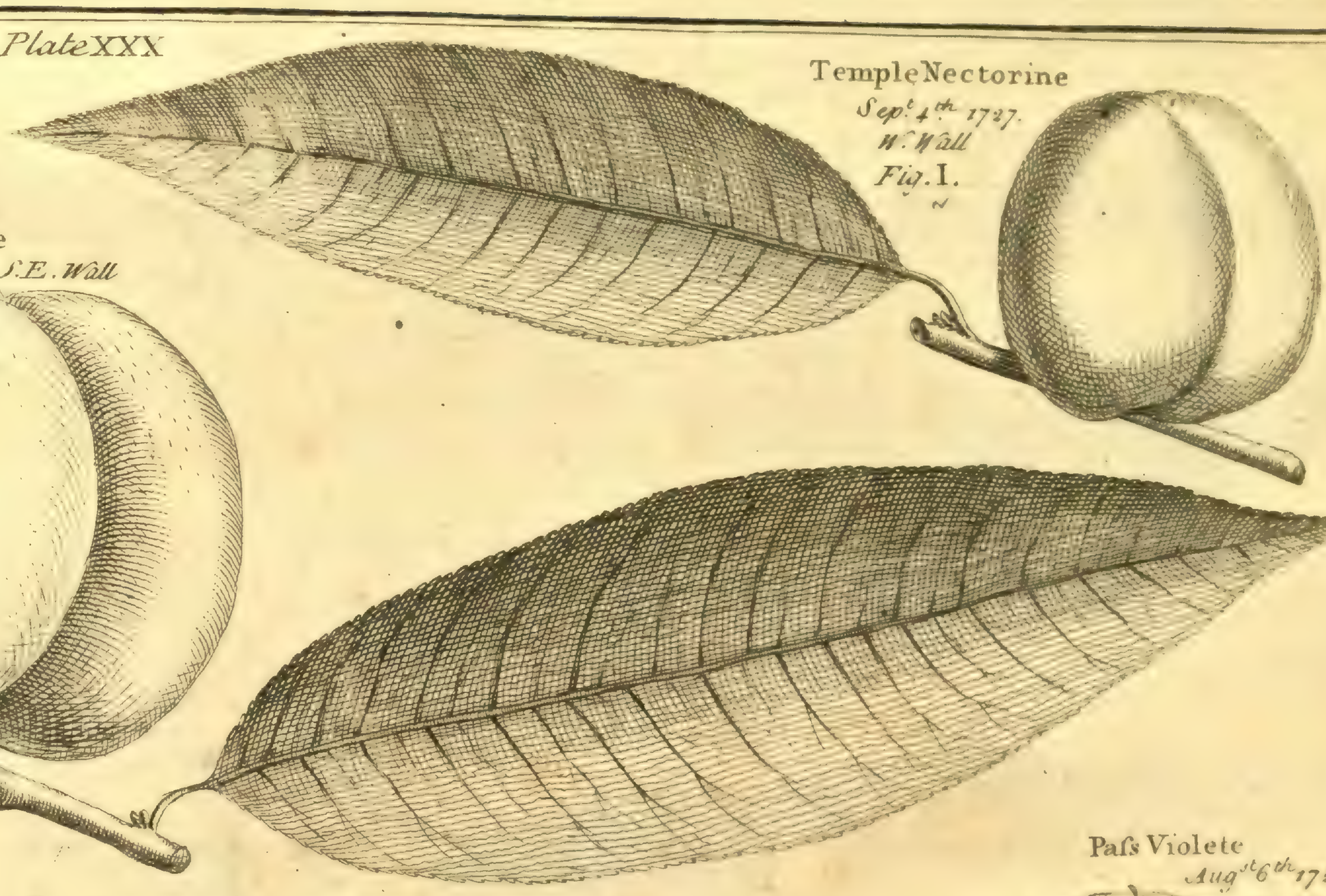


B Langley Delin.

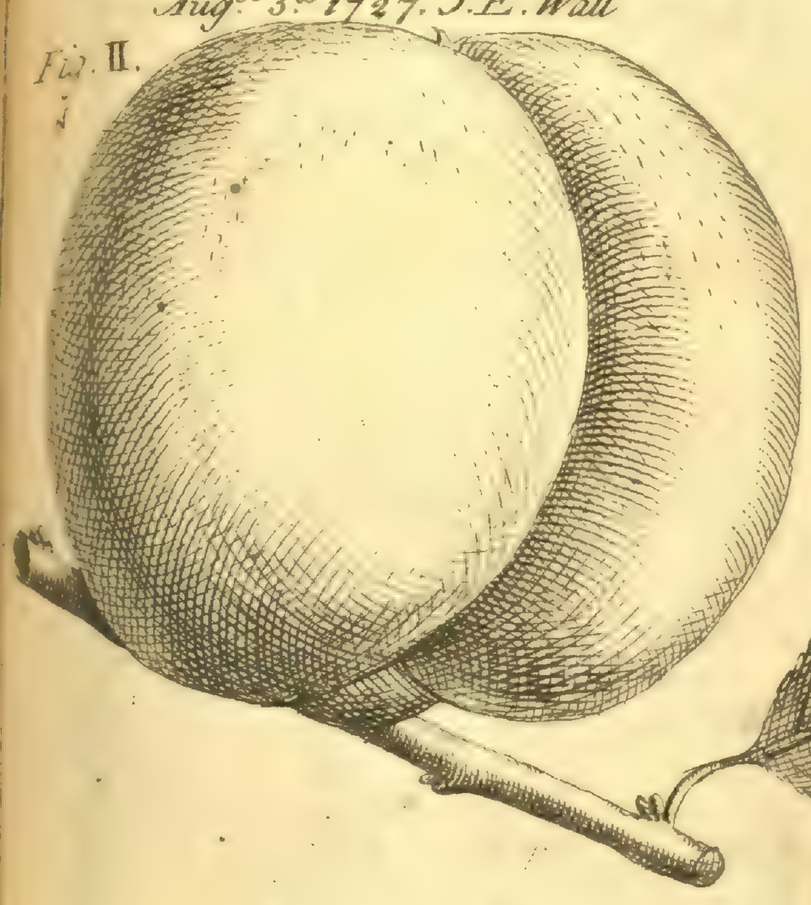
Toms Sculp

Plate XXX

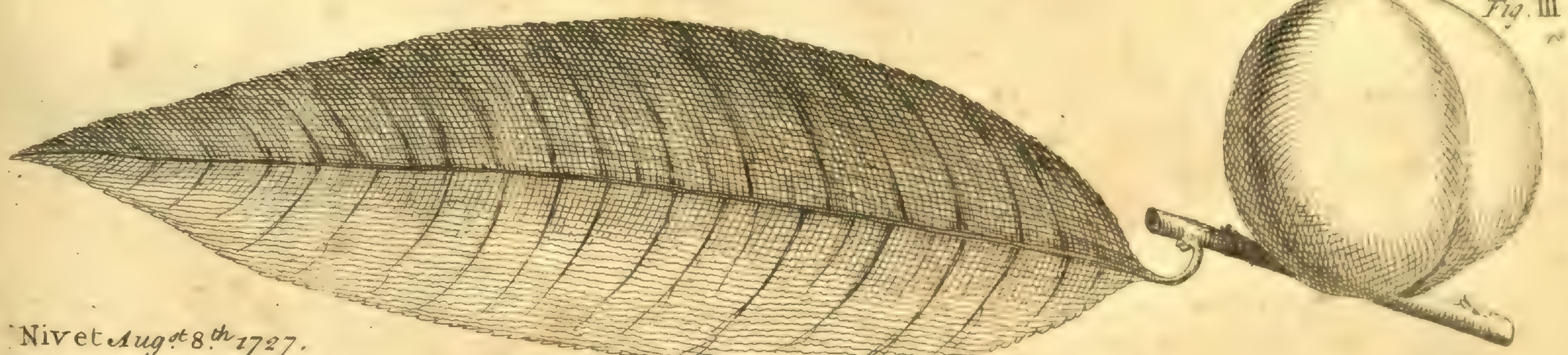
Temple Nectorine
Sep.t 4.th 1727.
W.m Wall
Fig. I.



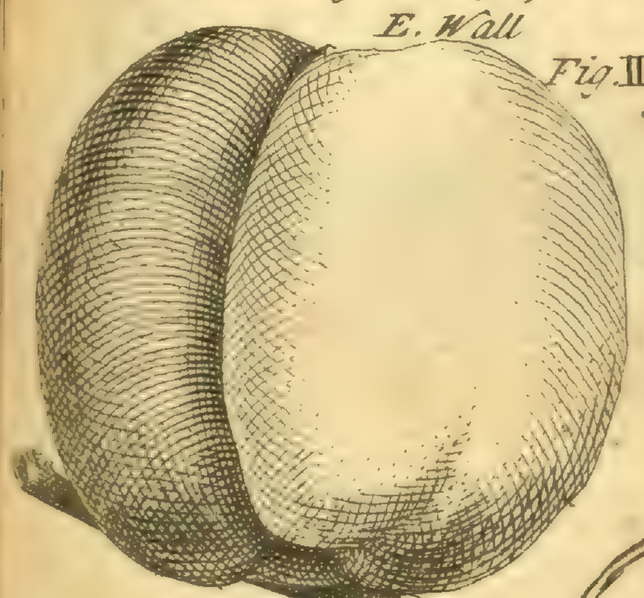
Early Admirable
Aug.st 3.d 1727. S.E. Wall
Fig. II.



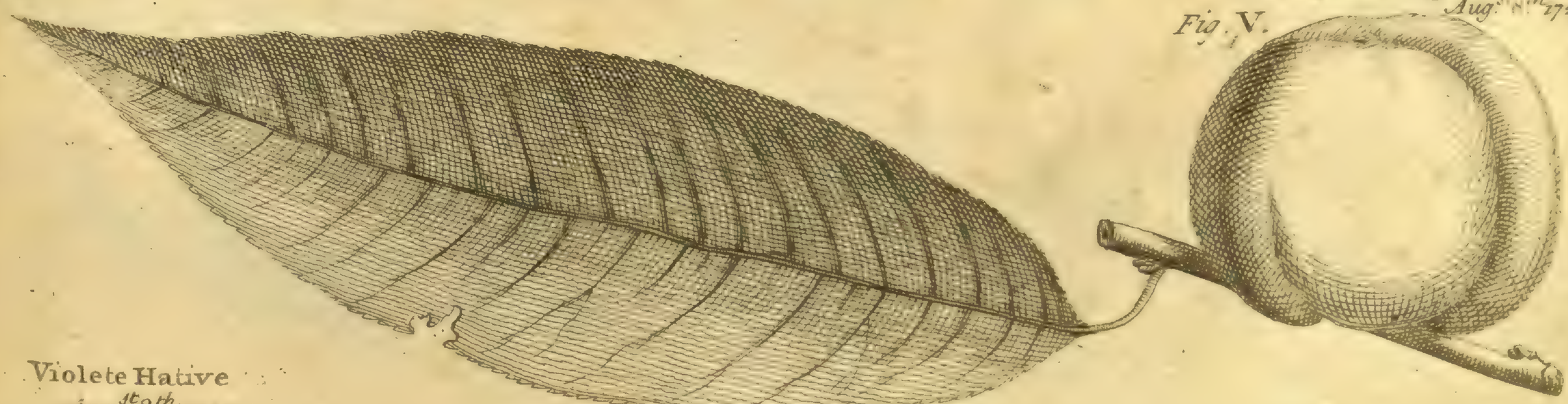
Pass Violete
Aug.st 6.th 1727.
Fig. III



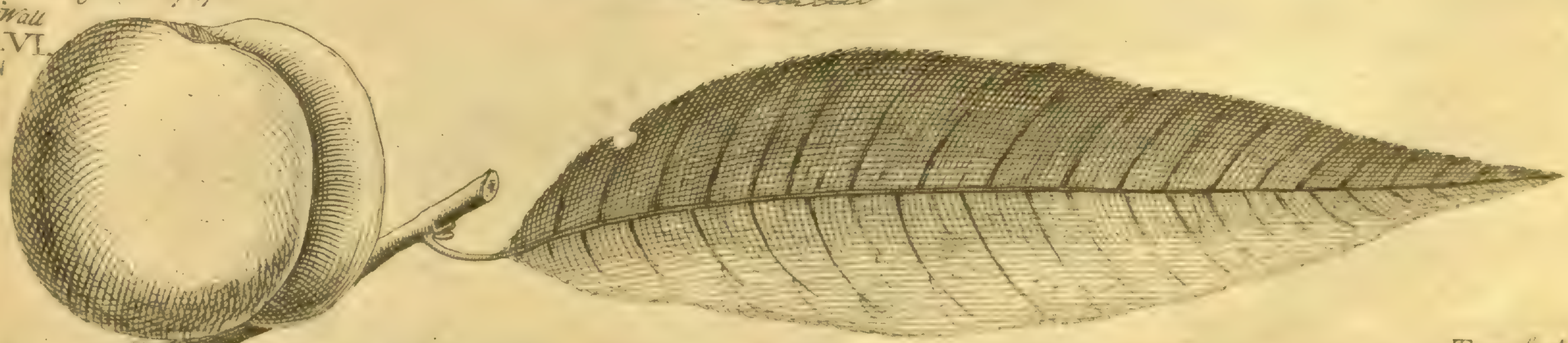
Nivet Aug.st 8.th 1727.
E. Wall
Fig. IIII



Purple Alberge E. Wall
Aug.st 8.th 1727
Fig. V.



Violete Hative
Aug.st 8.th 1727.
E. Wall
Fig. VI.



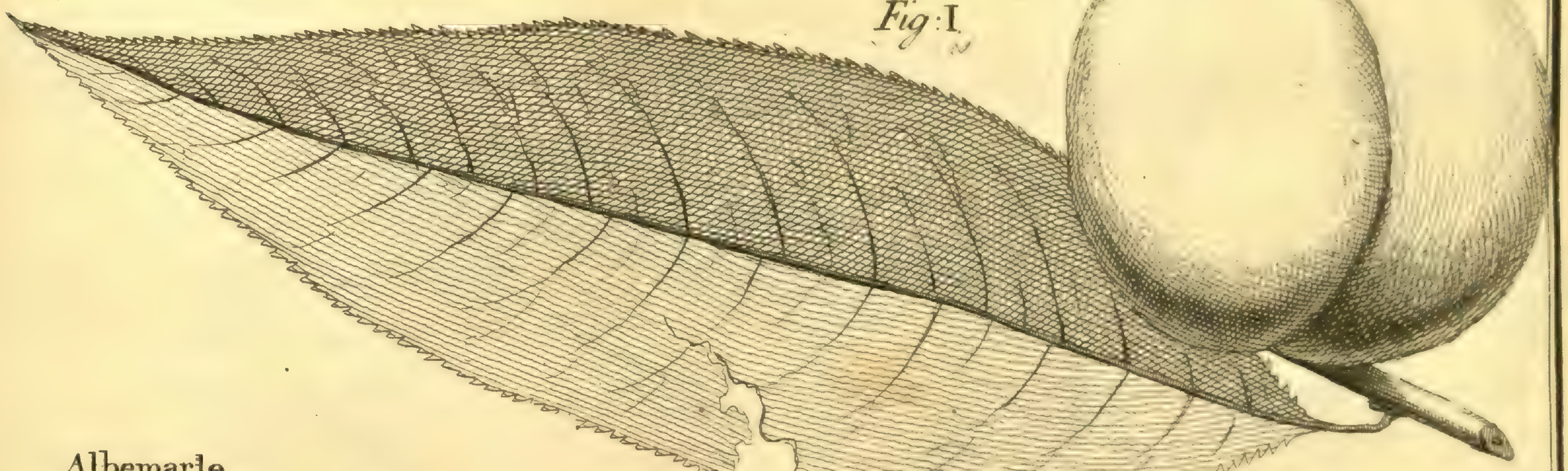
B. Langley Delin.

Toms Sculp.

Plate XXXI

Old Newington Peach
Aug.st 10.th 1727

Fig: I.



Albemarle
ripe Aug.st 10.th

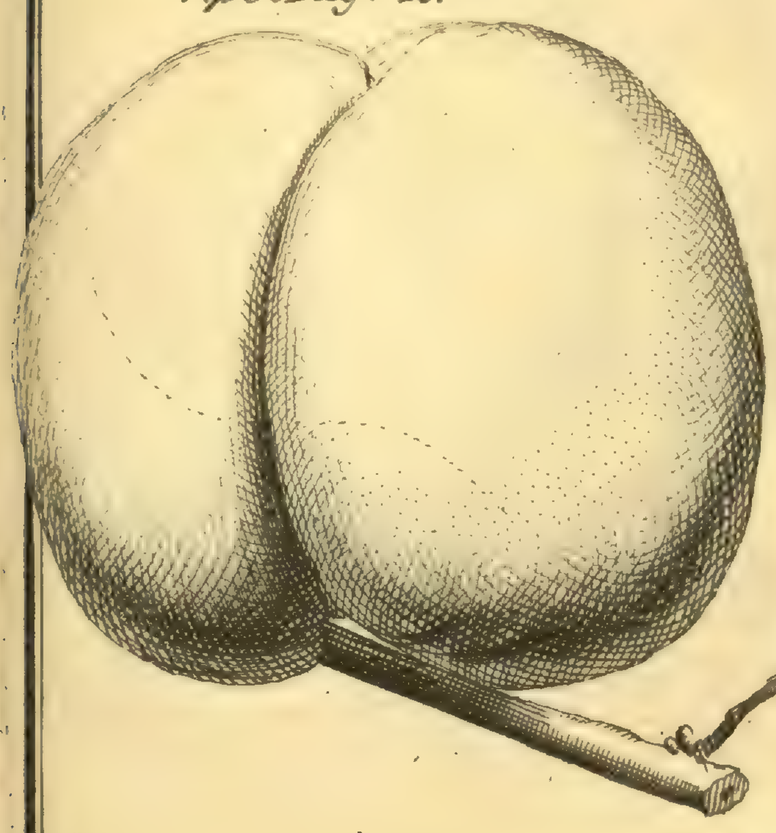
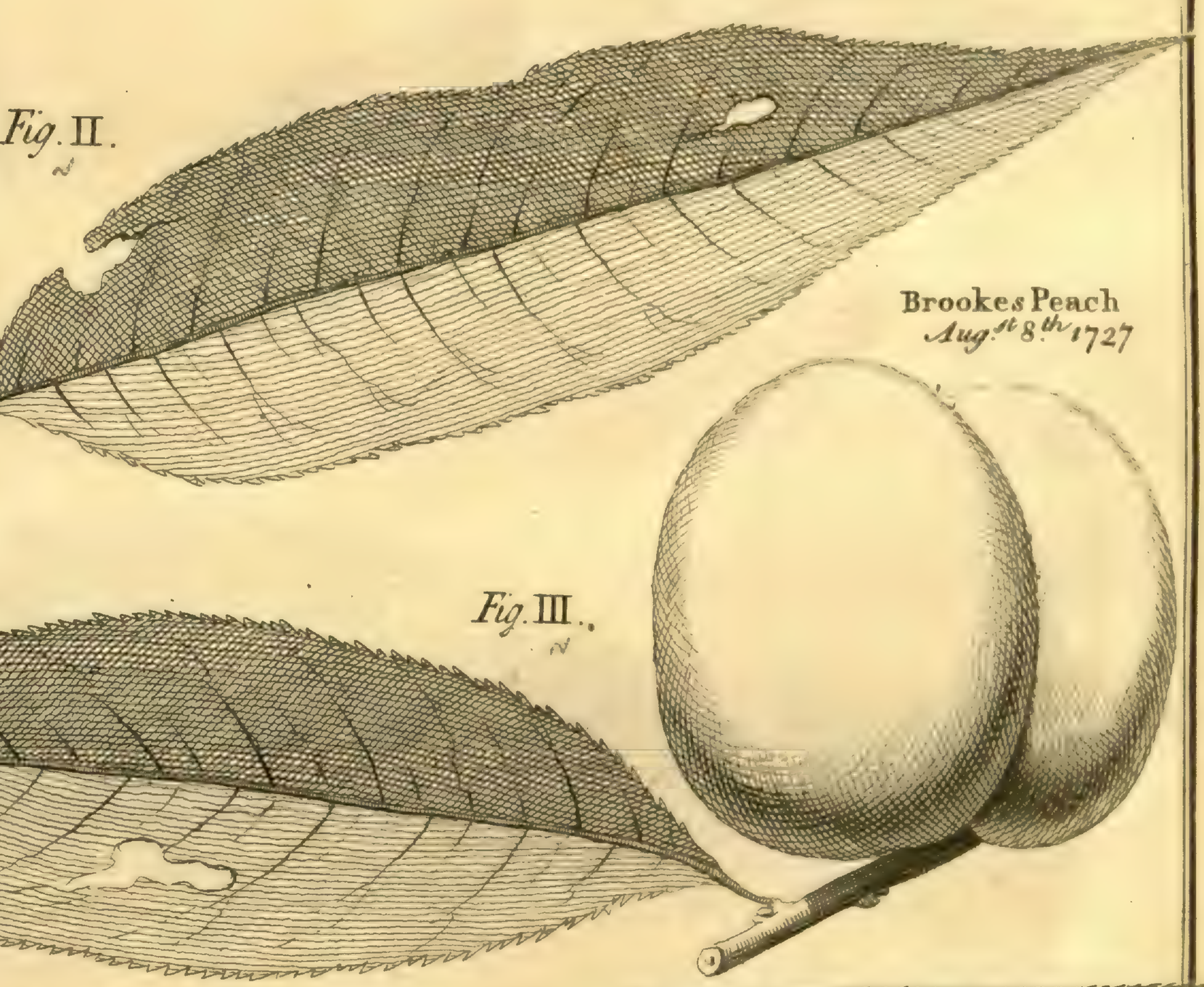
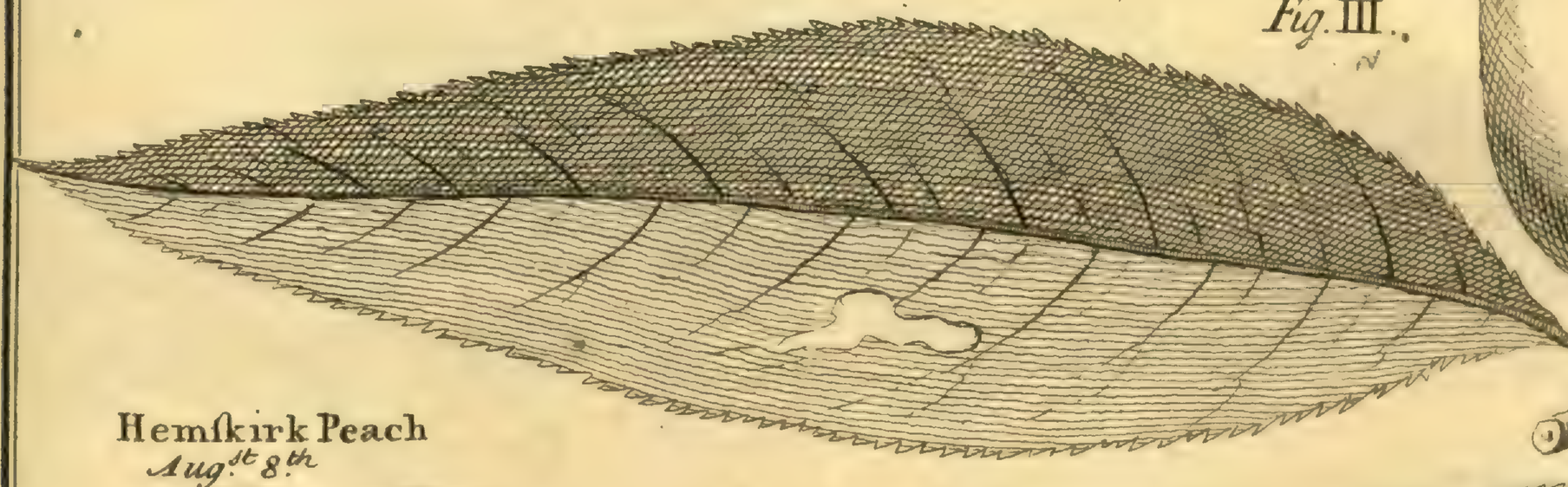


Fig. II.



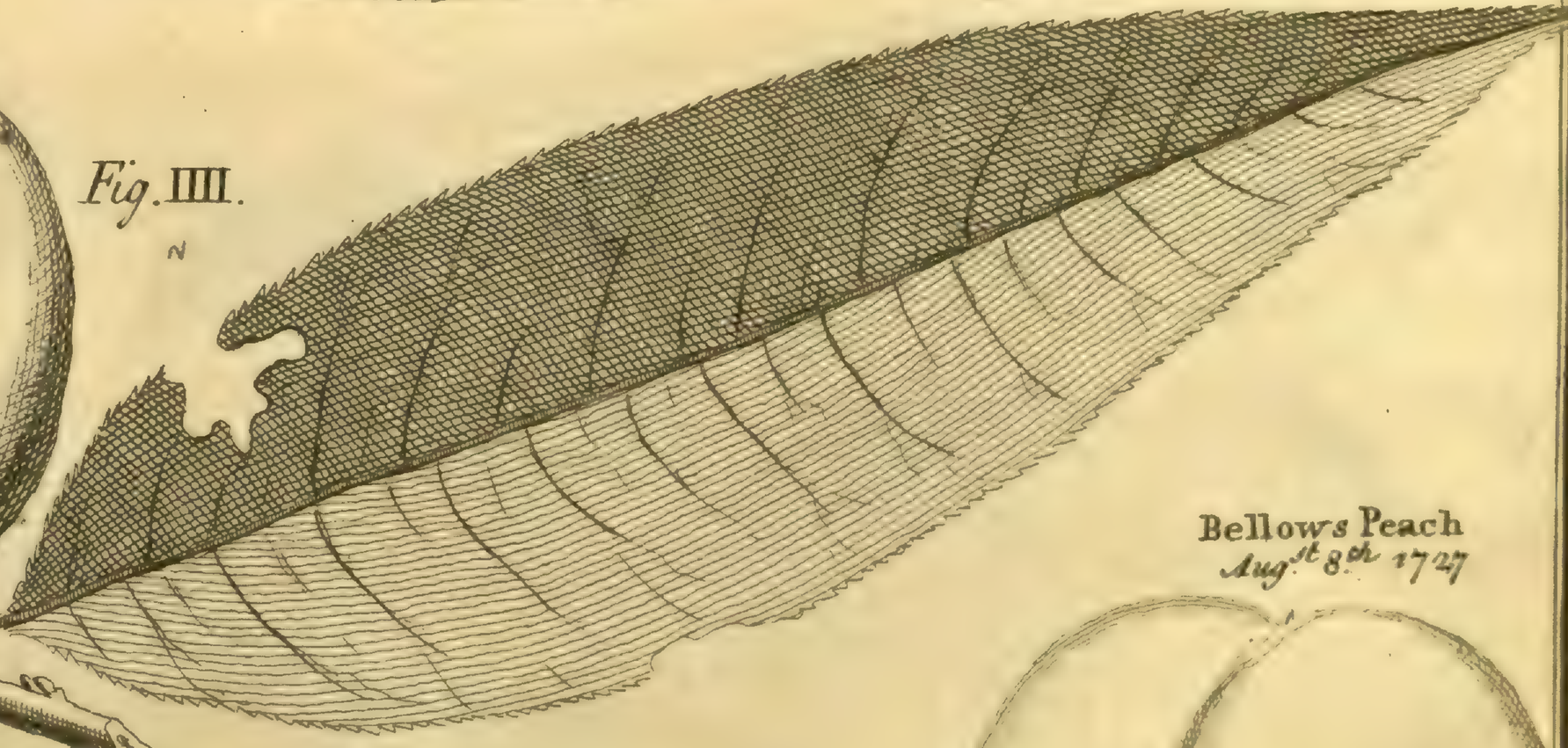
Brookes Peach
Aug.st 8.th 1727

Fig. III.



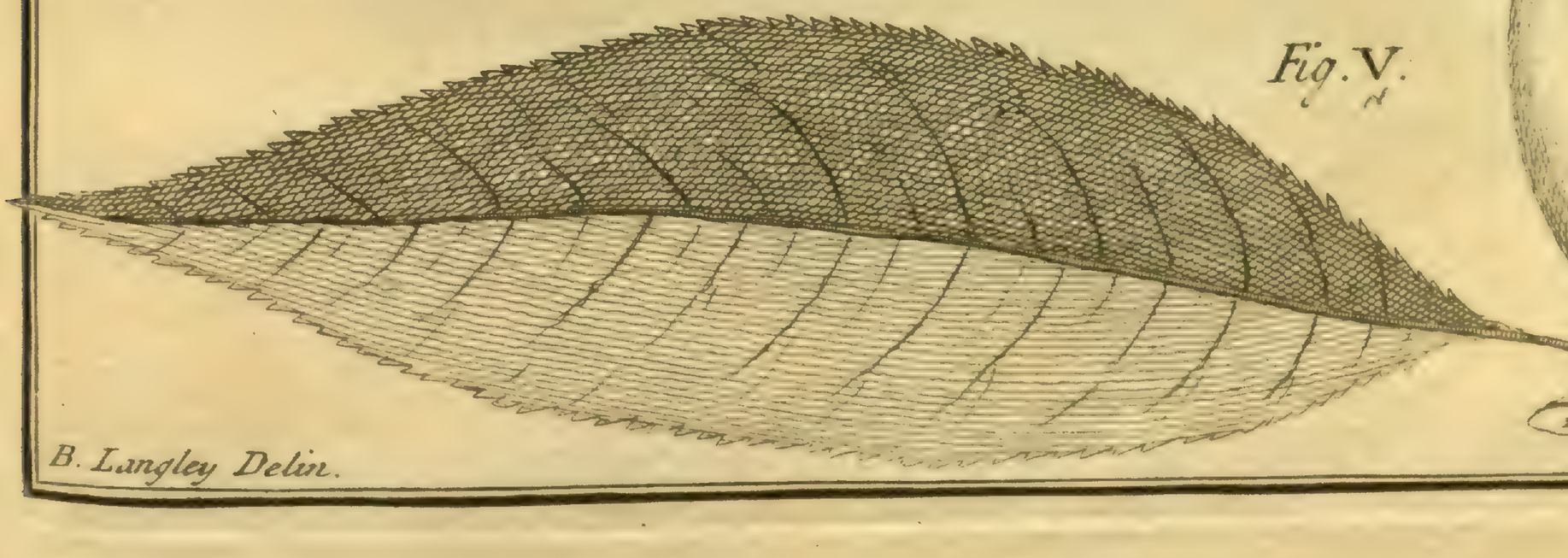
Hemskirk Peach
Aug.st 8.th

Fig. IIII.



Bellows Peach
Aug.st 8.th 1727

Fig. V.



B. Langley Delin.

Toms Sculp.

Plate XXXII

Swalze Aug.t 1. 1727
W. Wall

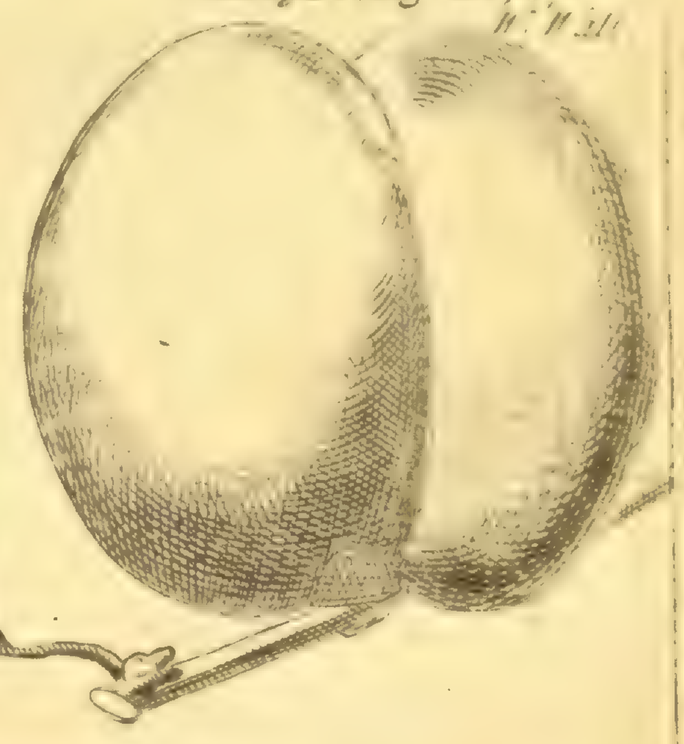
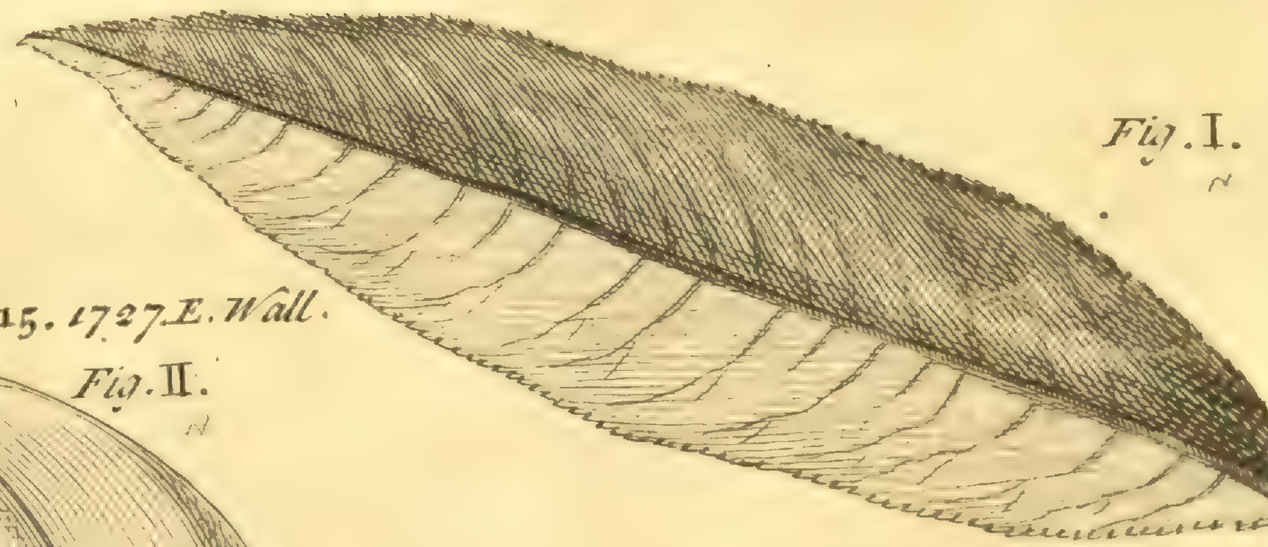
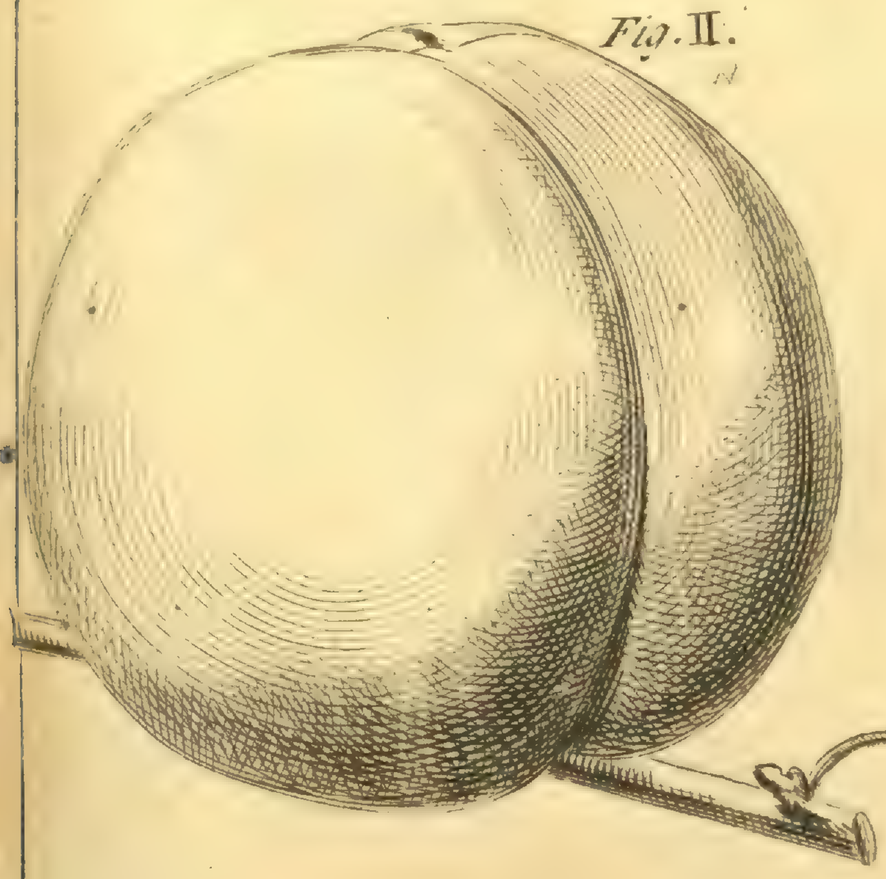


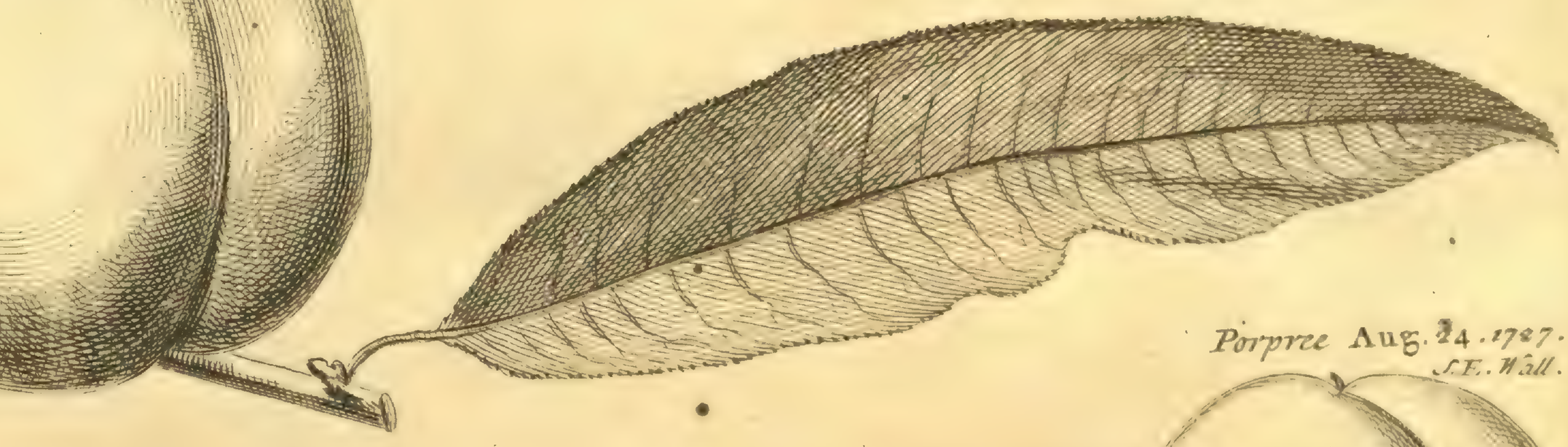
Fig. I.



Pavy Royal Aug.t 15. 1727 E. Wall.

Fig. II.





Porpree Aug. 24. 1727.
S.E. Wall.

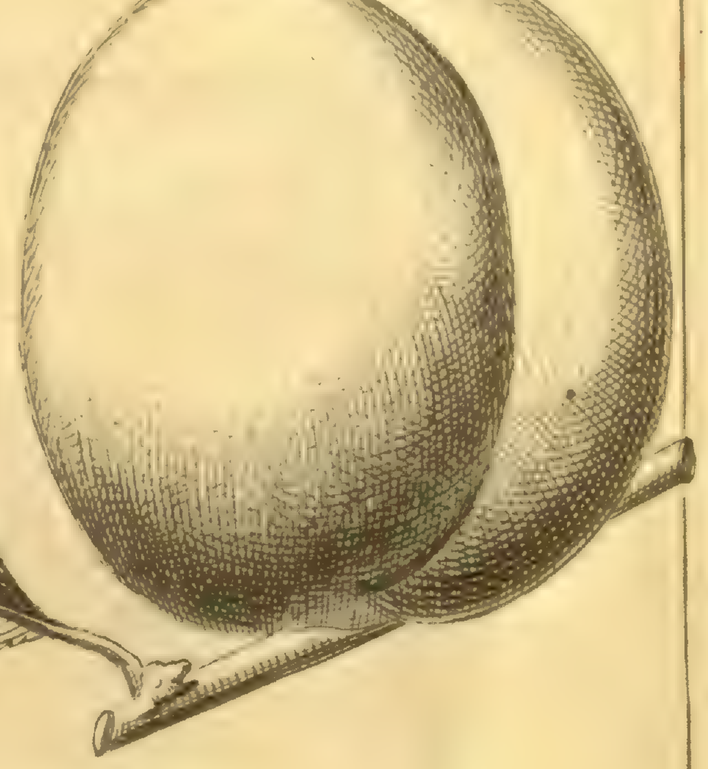
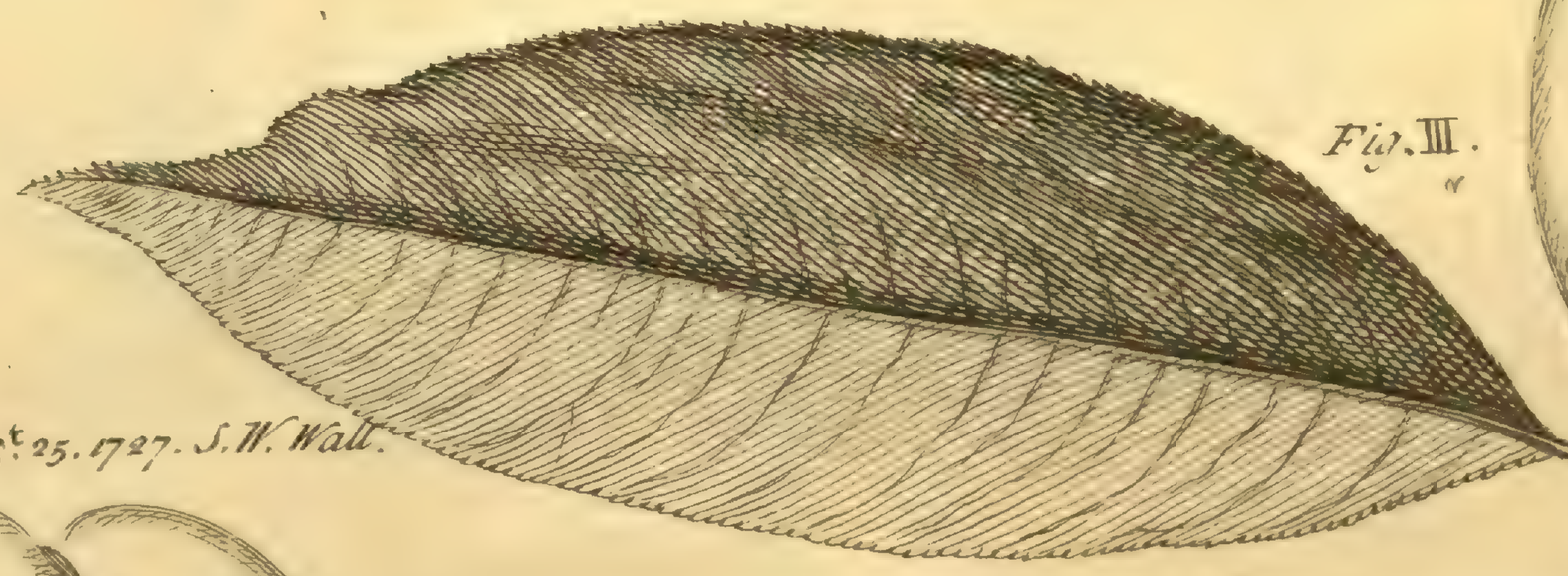
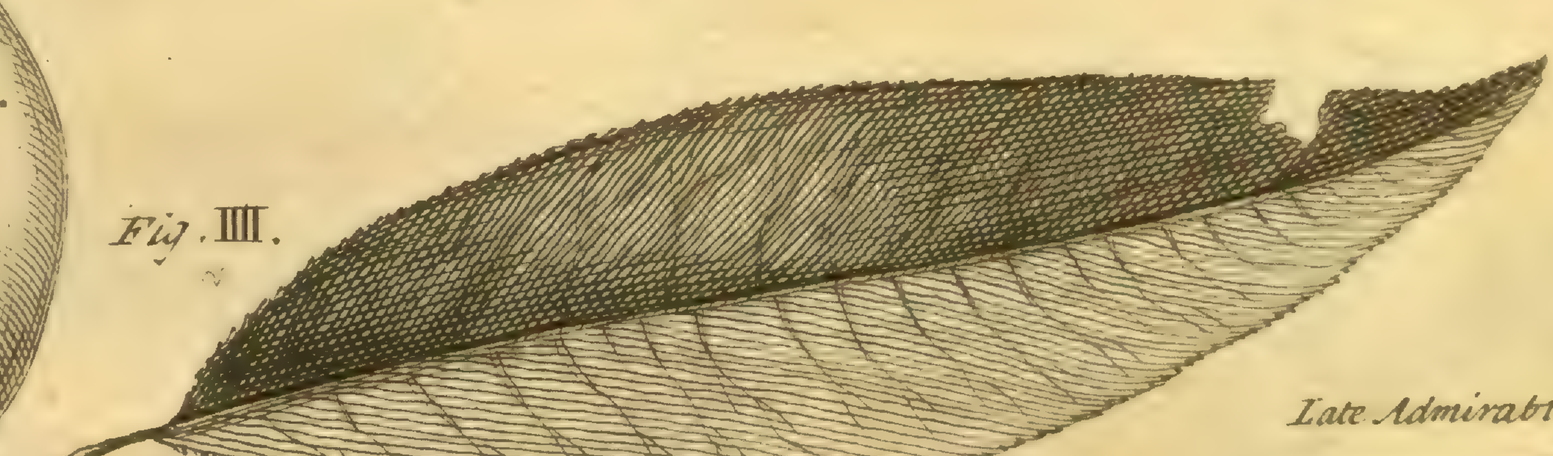


Fig. III.



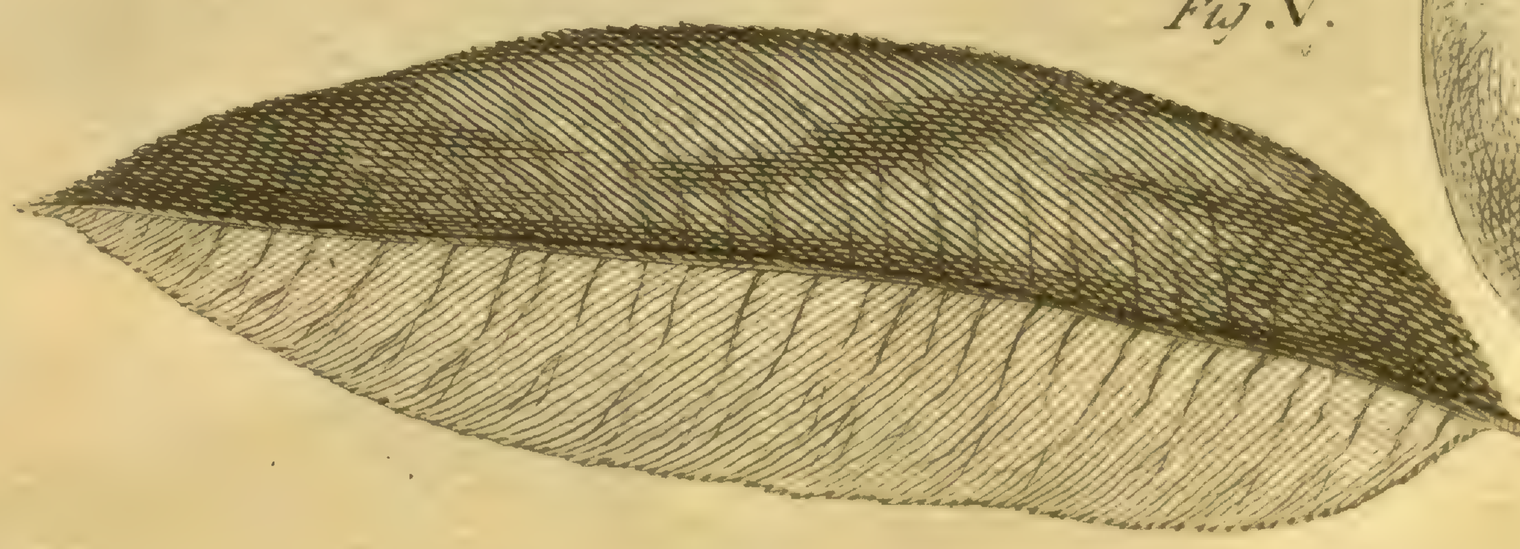
Richets Aug.t 25. 1727. S.W. Wall.

Fig. IIII.



Late Admirable Aug.t 25. 1727.
S.E. Wall.

Fig. V.



B. Langley Delin.

Bellchevruse Peach *Plate* XXXIII
Aug.st 2.d 1727.
W. Wall.

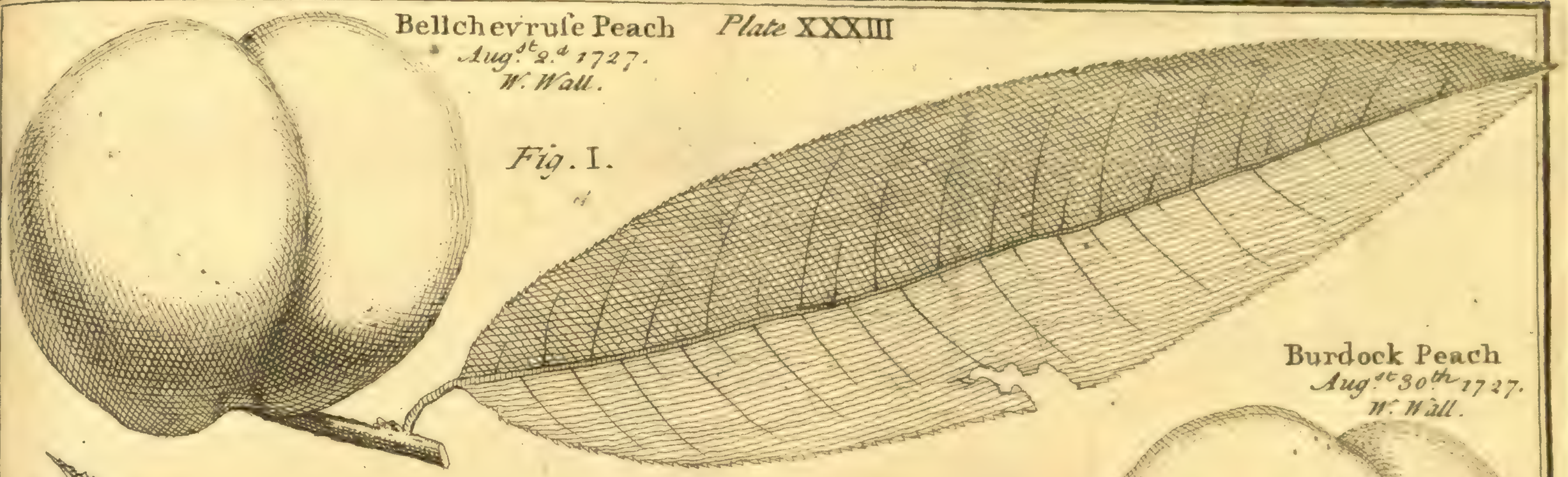


Fig. I.

Burdock Peach
Aug.st 30.th 1727.
W. Wall.

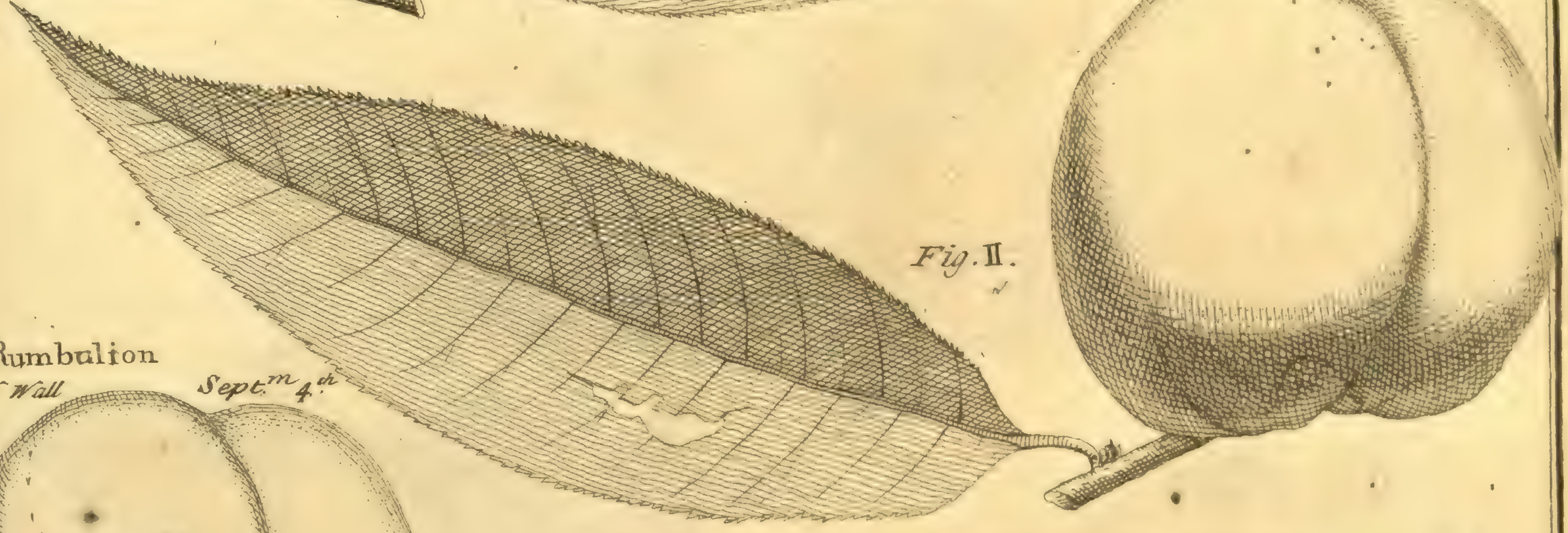


Fig. II.

Rumbulion
W. Wall *Sept.m 4.th*

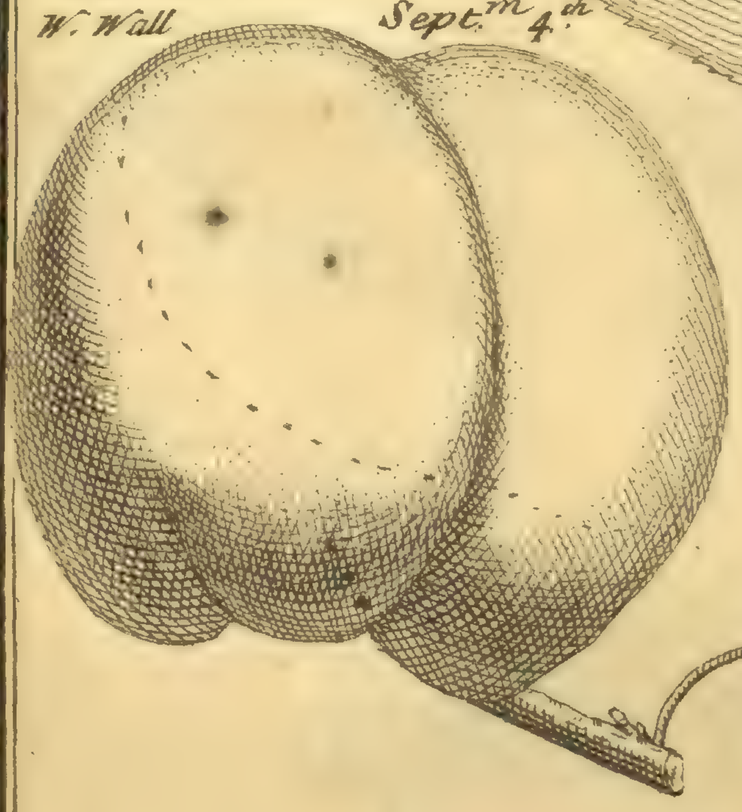
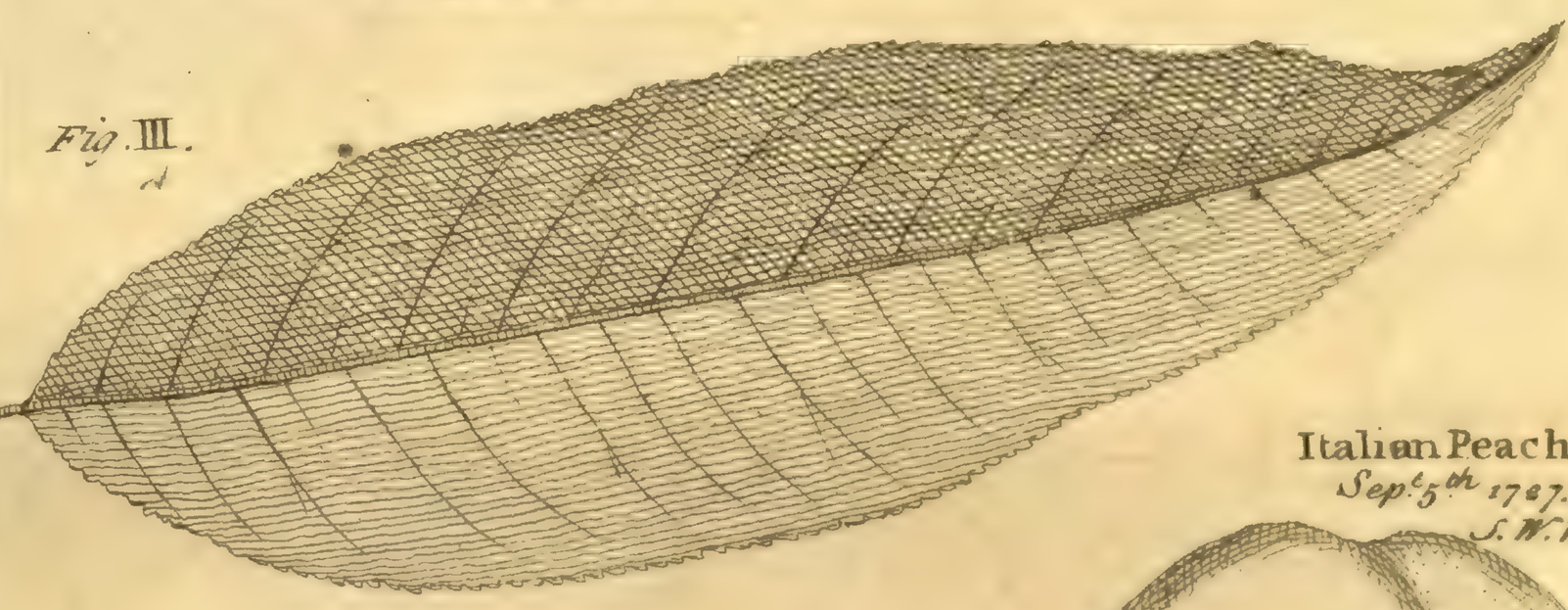


Fig. III.



Italian Peach
Sept.r 5.th 1727.
S. W. Wall

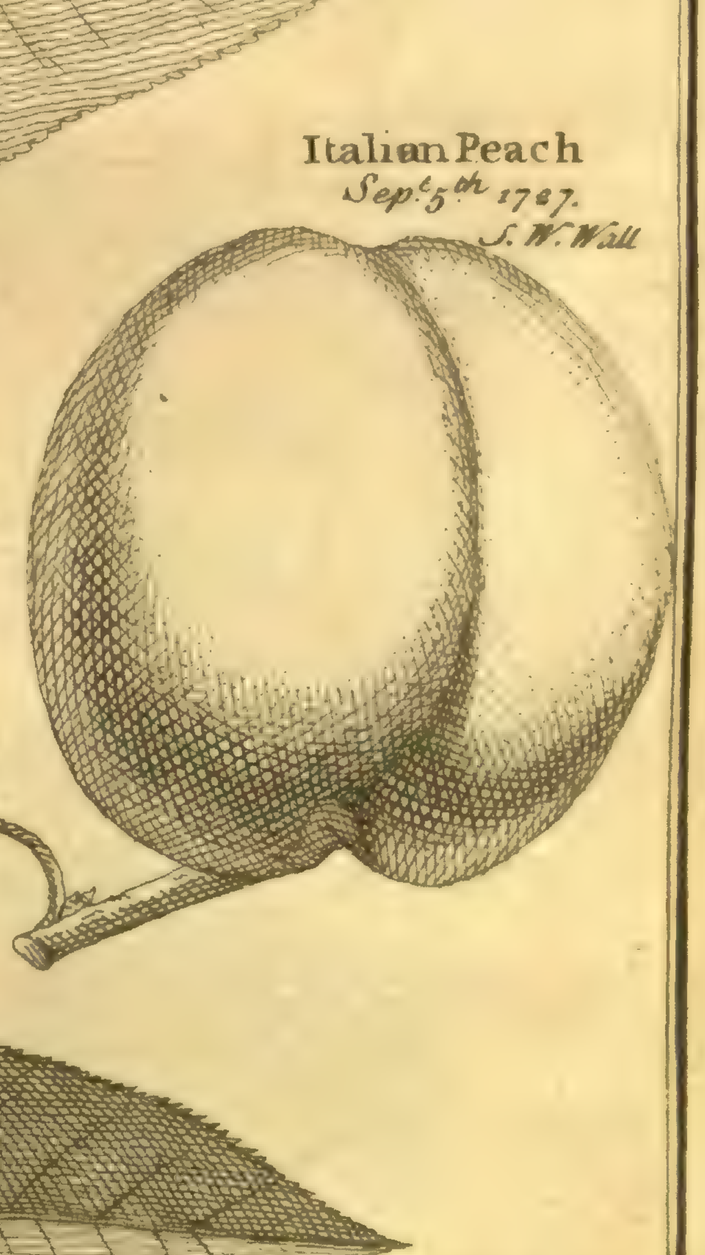


Fig. V.

Malacotune
Sep.10.th 1727. S.W. Wall

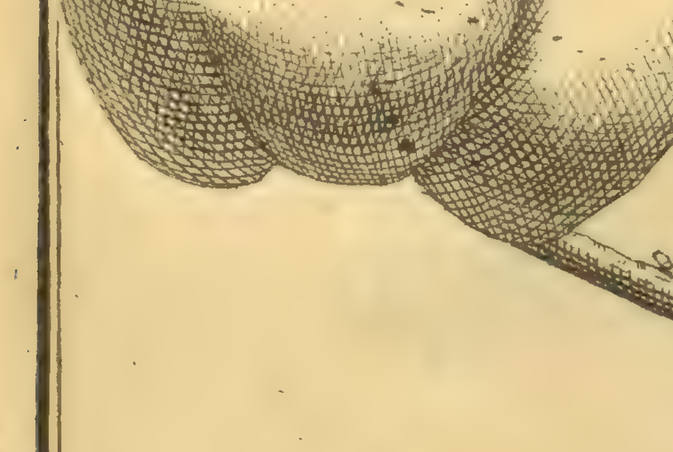
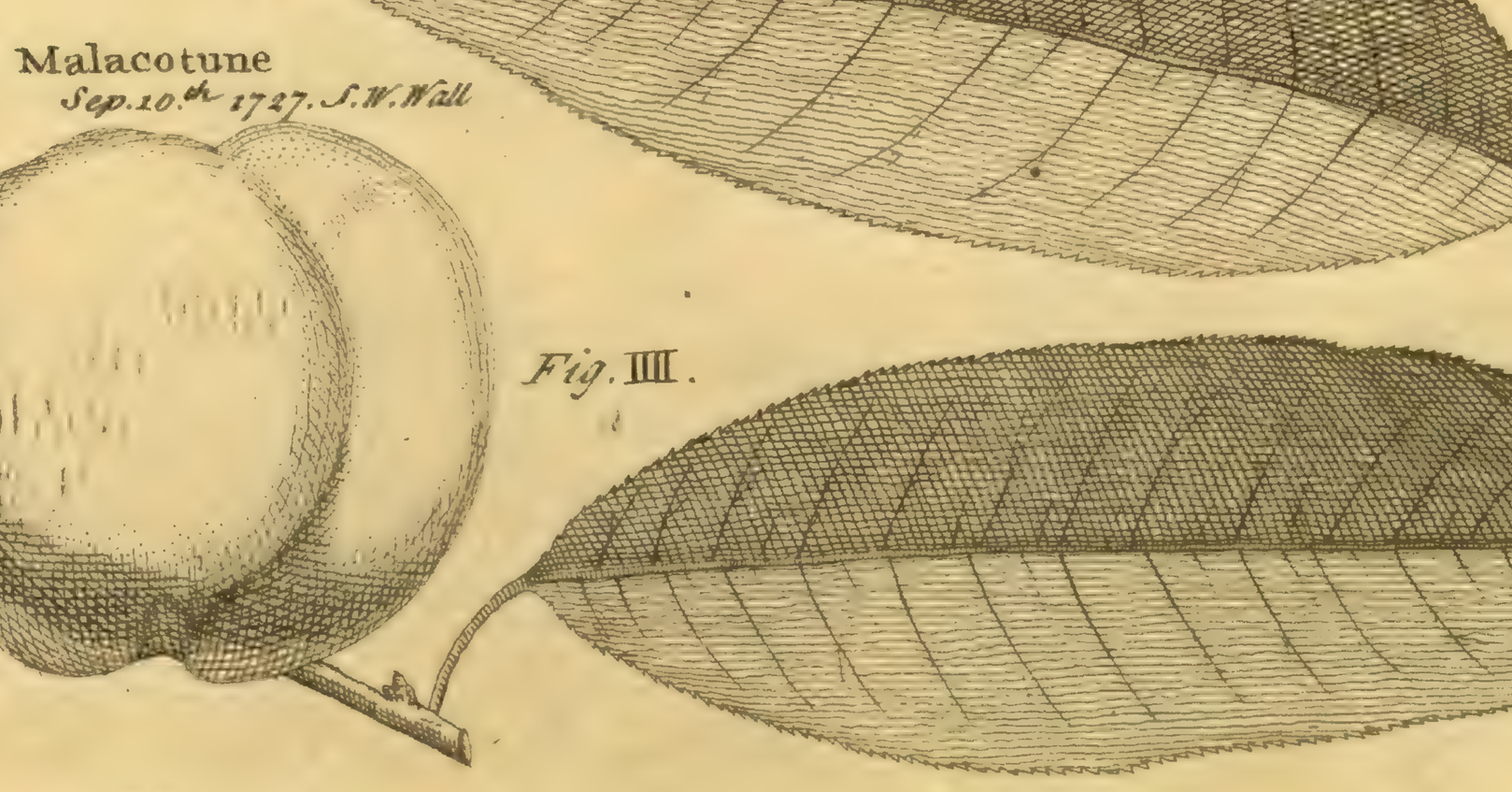


Fig. III.

Catherine Peach
Sept. 15.th 1727.
S. Wall

Fig. VI.



B. Langley Delin. *Tomes Sculp.*

The Erroneous Method of Stoping the Shoots of vines about the 20th of **May**.

Fig. I.

A

C

B

G

D

H

E

F

San Sparks del. et sculp.

Plate XXXV.

White Muſcadine Grape

Ripe Aug.t 16.th South East Wall

Black Muſcadine Grape
Sep. 20.th 1727
South wall —

B. Langley Delin.

I. Carwitham Sculp.

Plate XXXVII

White Frontinac *Sept. 20th 1727*
South wall

B. Langley Delin.

Black Frontinac *Sept.20.th 1727.*
Southwall

Plate XXXVIII *v*

B. Langley Delin.

A Section of the Fruit

Brick Grape
Ripe Augt. 24
1727.

Fig. I.

White Lombard Grape
Ripe Sept: 20: 1727.

Fig. II.

A Section of the Fruit

B. Langley delin.

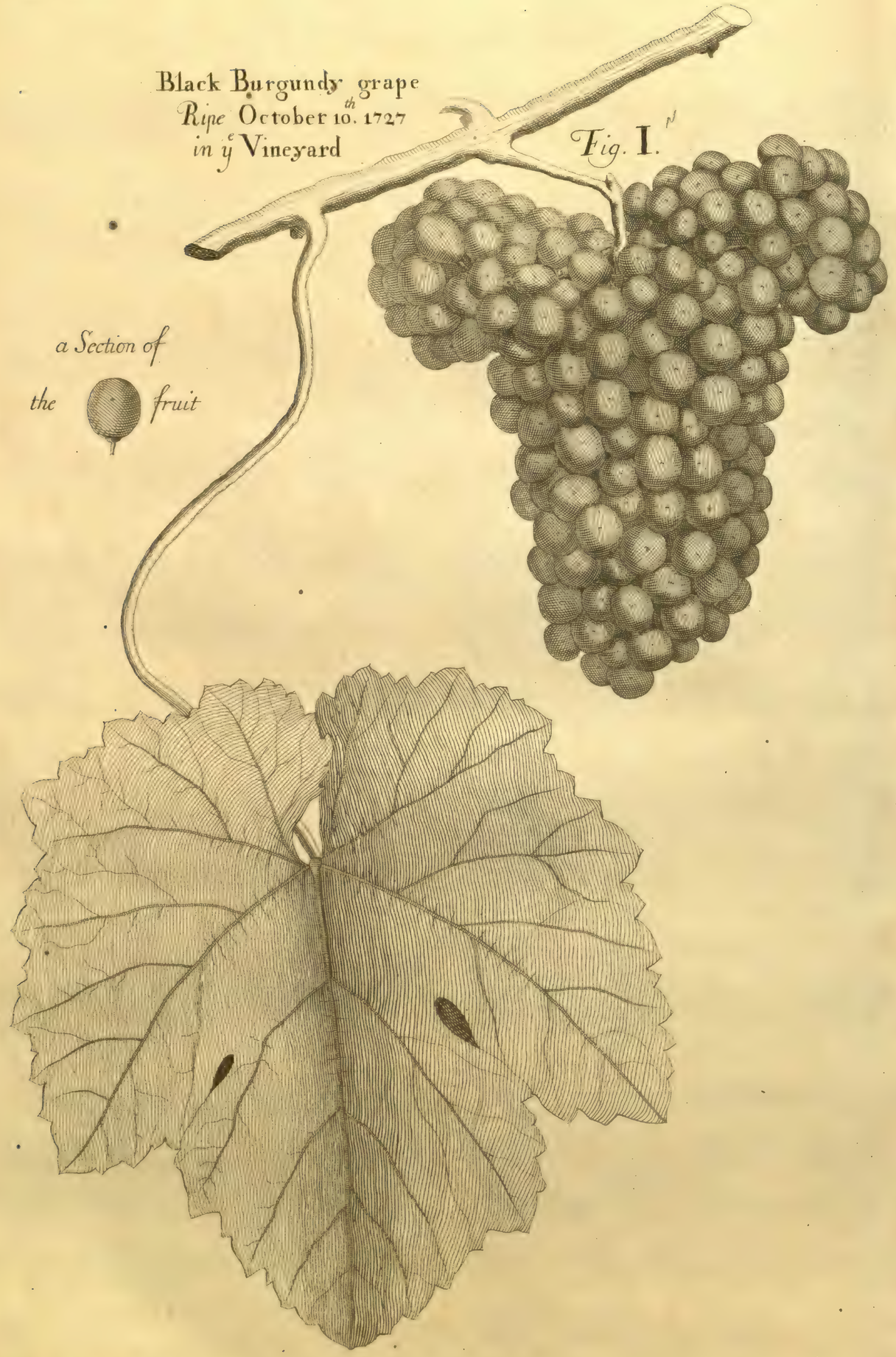
T. I. de Gucht Sculp.

Plate. XLI.

Black Burgundy grape
Ripe October 10.th 1727
in y.e Vineyard

Fig. I.

a Section of
the fruit



B. Langley Delin.

Plate. XLII.

Black Cluster grape
Ripe September 20.th 1727

Fig. II.

a Section
of the fruit

V.dr Gucht Sc.

White Raisin Grape *Oct. 10th 1727.*
South Wall

B. Langley Delin

Plate XLV.

Black Esperione Grape

Sept. 20.th 1727.
S. W. Wall.

B. Langley Delin.

Plate XLVI.

Black Currant Grape
Aug.t 24.th 1727.
S.E. wall
20 Deg.

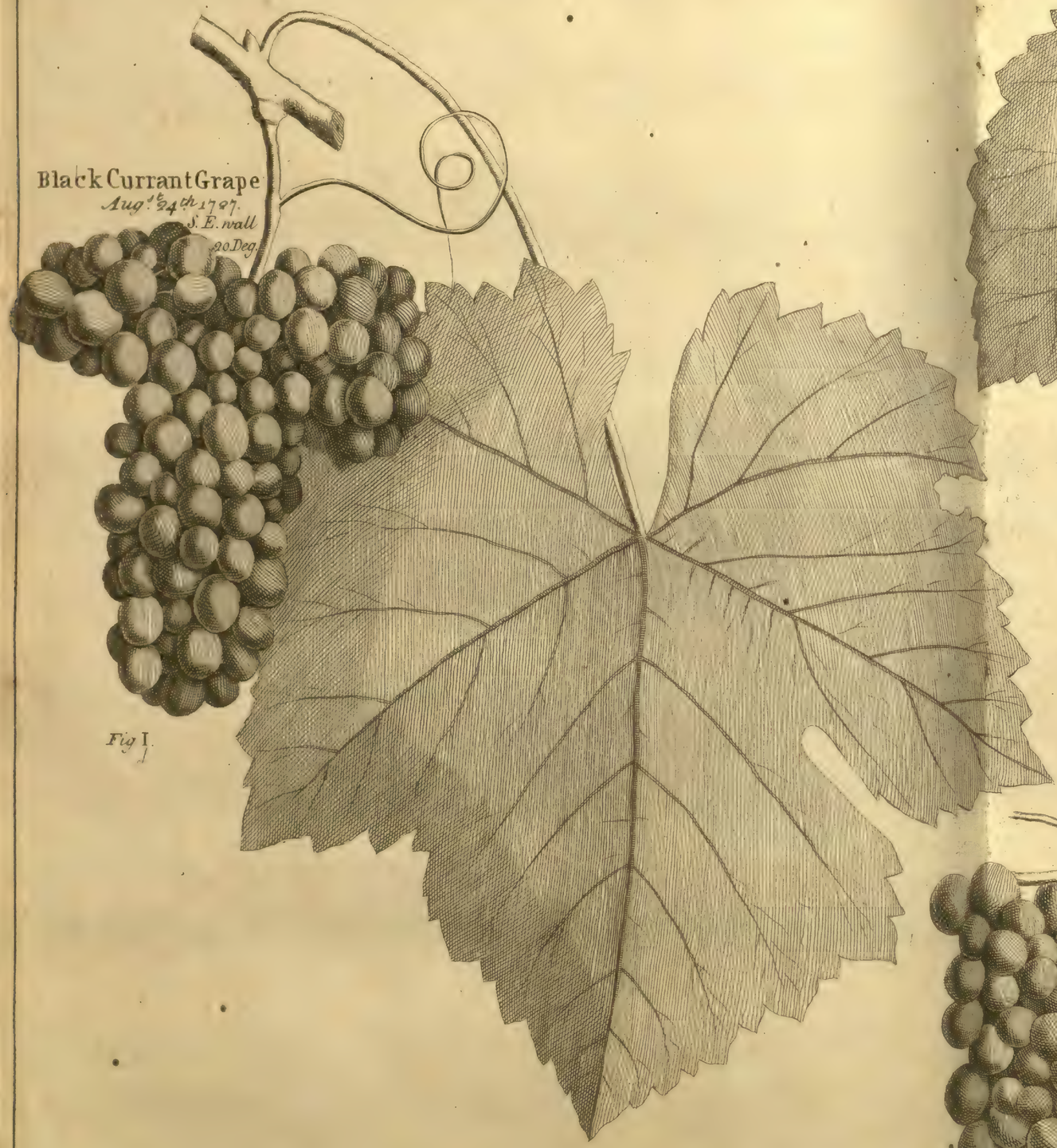


Fig I.

B. Langley Delin.

Plate XLVII.

July Grape
July 25.th 1727.
South wall

Fig. III.

Claret Grape
Aug.t 30. 1727. in the Vineyard

Fig. II.

I. Carnitham Sculp.

White Sweetwater *Aug.st 10.th*

a Section of the Fruit

A

B. Langley Delin

a Section of the Fruit

B

Black Sweetwater *Aug.st 20.th*

Jam.s Smith Sculp

Plate LII.

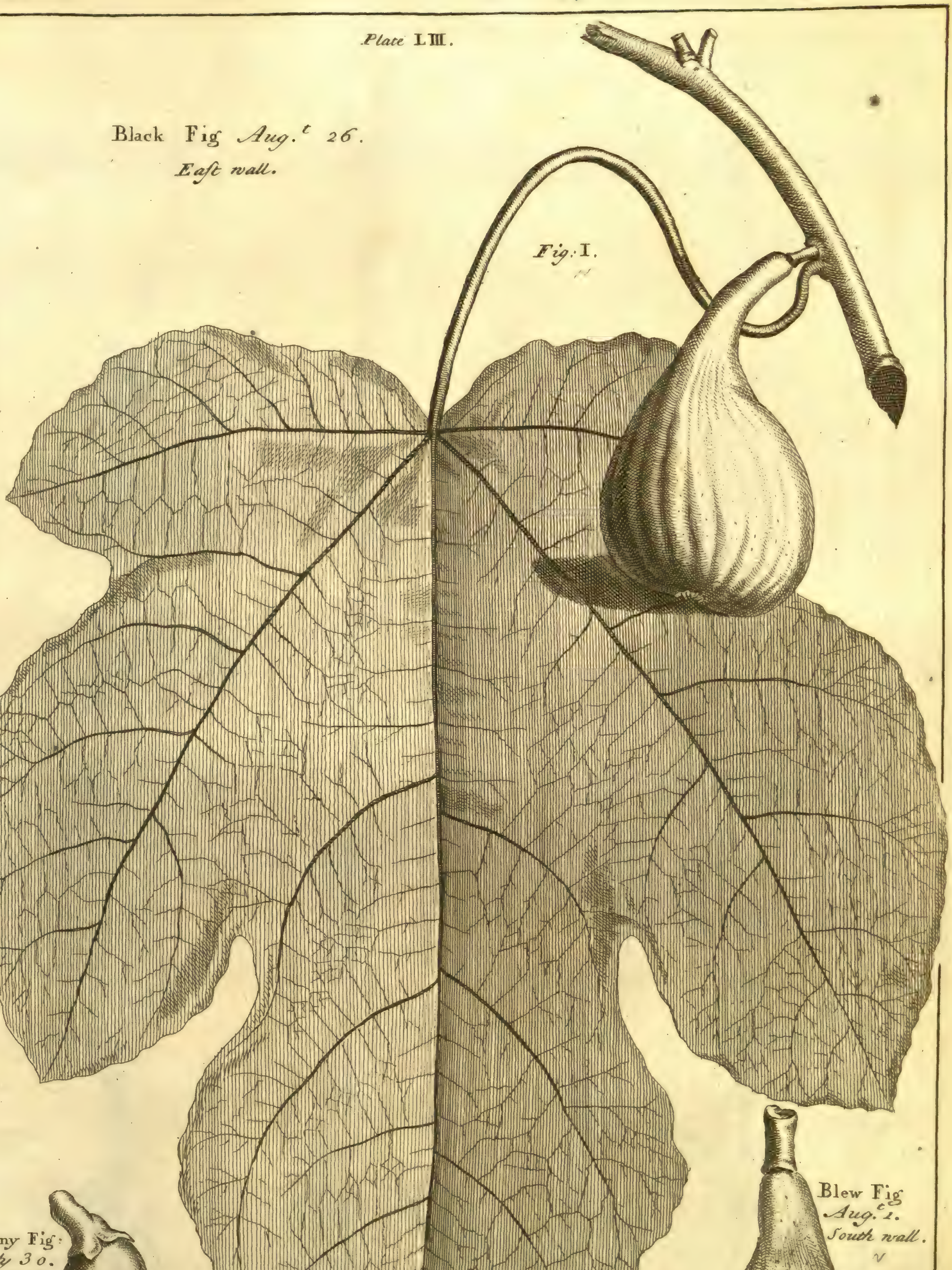
2.d *Crop*
ripe Sep.t 10.
Dwarf.

Fig: II.

White Fig · 1.st *Crop*
ripe July 10.
South wall.

Black Fig *Aug.t* 26.
East wall.

Fig. I.



Tawny Fig:
July 30.
South wall.

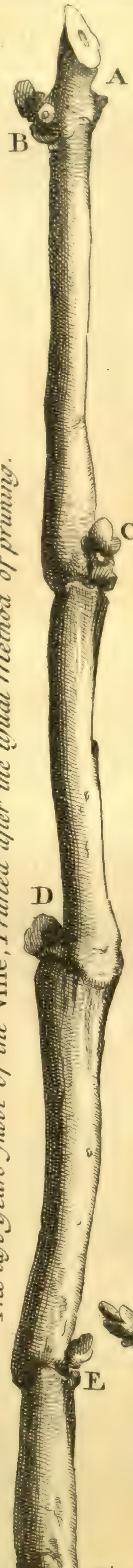
Blew Fig
Aug.t 1.
South wall.

B. Langley Delin.

Plate LIV.

The last Years Shoot of the White Fig.

Fig:2



The last Years Shoot of the Vine, *Pruned after the usual Method of pruning.*

Fig:1

The Black Mulberry in Bud.

Fig: 3

Two Years wood of the Non-paicel Apple

Fig: 4

one Years wood of the Non-paicel Apple

Fig 5

Tomes sculp:

Plate LV.

Fig. IV.

Scarlet Strawberry,
in Blossom April. 10
1727.

Fig. III.

Haut-boy Strawberry
ripe June. 1. *1727.*

Plate LVI.

White Holland *or* Dutch
Gooseberry ripe June 20

Fig. III.

Earley Red *or*
Champaine *ripe*
June 20.

Fig. II.

Amber Gooseberry
ripe June 20

Fig. IV

Scarlet Rasberry
ripe June 1
1727.

Fig. V.

White Dutch
Currant.
ripe June 6
1727.

Fig. VI

White Dutch
Currant *in*
Blossom
March 26

Fig. VII

Amber Gooseberry *fit for Tarts.*
May. 1. 1727.

Fig. VIII
Gooseberry *in*
Blossom
March 26.

Vdr. Gucht Sculpt.

Plate LVII.

White Philbert.
July 15. 1727.

Fig: I.

Fig: II.

Hazel. nut.
July 20. 1727.

Fig: III.

Cob-nut
July 20.
1727.

Black Mulberry
July 20. 1727.

Fig IIII.

T. Bowles Sculp.

Plate, LVIII.

The last years shoot of Wallnut preparing its Katkins, and buds for growth. March 26. 1727.

Fig. II.

Fig. I.

The Katkins, or false Blossoms of the Wallnut Aprill 12. 1727.

Wallnut Leaf in its Maturity

Fig. VI.

Fig. VII.

Young Wallnuts as they first appear in the Spring. Aprill 27. 1727.

Katkins of the Black Mulberry may 8 1727.

A

B

Fig. VIII.

Plate, LVIIII.

French Wallnut open'd.

Fig. III.

Black Mulberrys as they first appear Aprill 27. 1727.

Fig. IIII.

French Wallnut Entire. Ripe Sept. 1. 1727.

Fig. V.

Small English Wallnut

Fig. IX.

Large English Wallnut open'd.

Large Eng: Wallnut Entire Sep. 1. 1727.

Fig. X.

Plate LXI

Windsor
Pear
July 10. 1727
Fig. II.

Bordine
Musk
June. 28.
1727
Fig. I.

Cuilse Madam
July 10. 1727.
Fig. III.

Jargonel
July 10 1727
Fig. IIII.

Fig. V.

Queen
Catherine
July 25.
1727.

Rose d'ete
July 17. 1727.
Fig. VI.

B. Langley Delin

Plate LXII.

Vermillion
July 17.
S.E. wall 20. Deg:

Fig: I.

Green
chizel
July 20 S.E. Wall.
45 Deg:

Fig: II.

Fig: III.

Petit
Blanquet
Aug.t 5.
Standard.

Fig: IV.

Roche
Berg.t
Aug.t 1.
Dwarf.

Royal Catherine
August 8. Standard.

St. Michael
Aug.t 8. West wall

Fig: V.

Fig: VI.

A
B
C

B. Langley Delin.

Bowles Sculp.

Pl. 63

Sugar Vert
Ripe Sept. 10
1727.
Fig. I.

Second Crop
Ripe Oct. 1 1727
Fig. II.

Vert longue
Ripe Sept. 10
1727
Fig. V.

Mr Hills Pear that bears twice a Year

First Crop
Ripe June. 12
1727.
Fig. III.

First Crop
Ripe Aug, 24. 1727.
Fig. IIII.

Strip'd
Vert longue
Ripe Sept, 10 1727
Fig. VI.

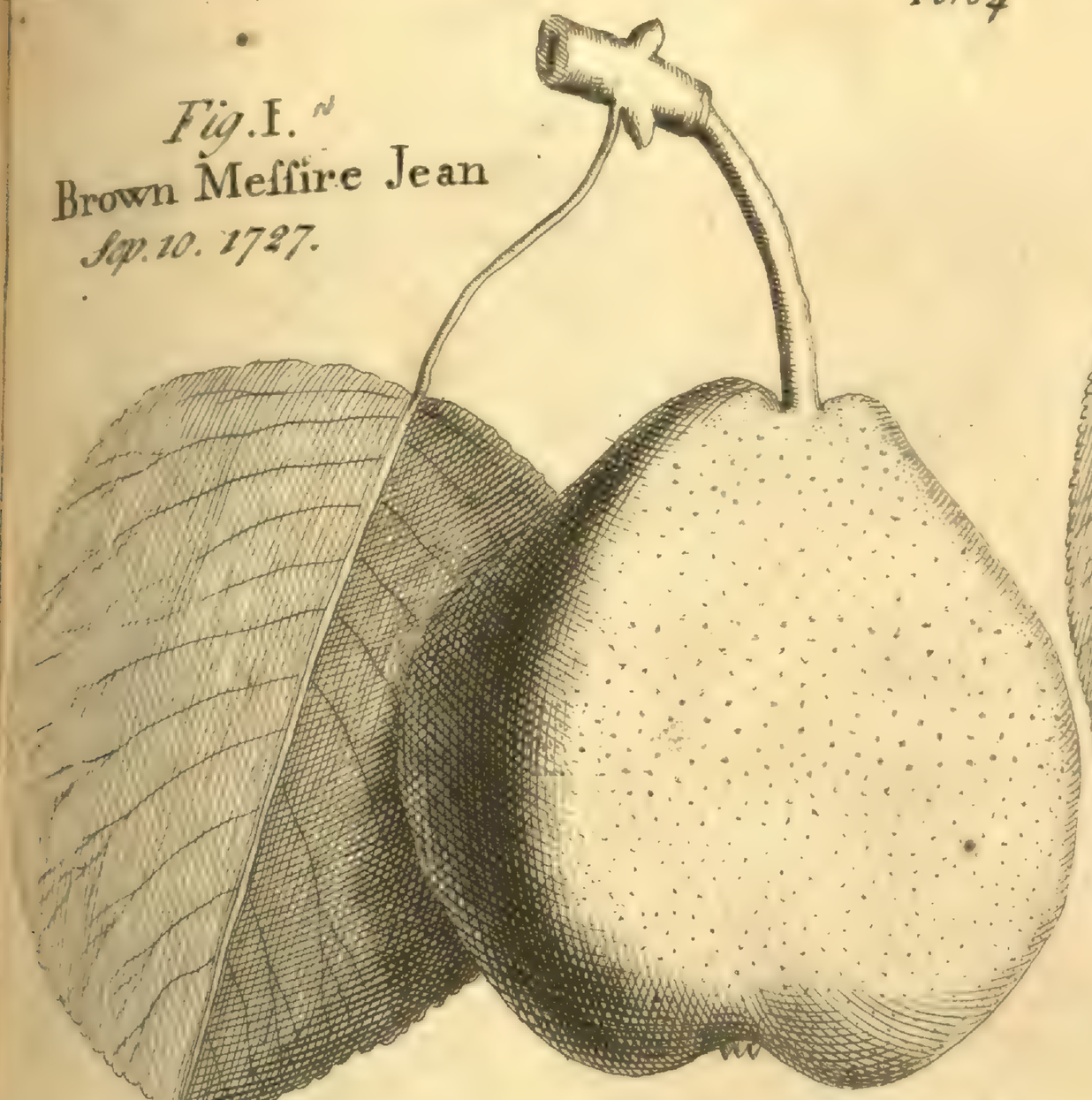
Doyenne
Fig. VII.

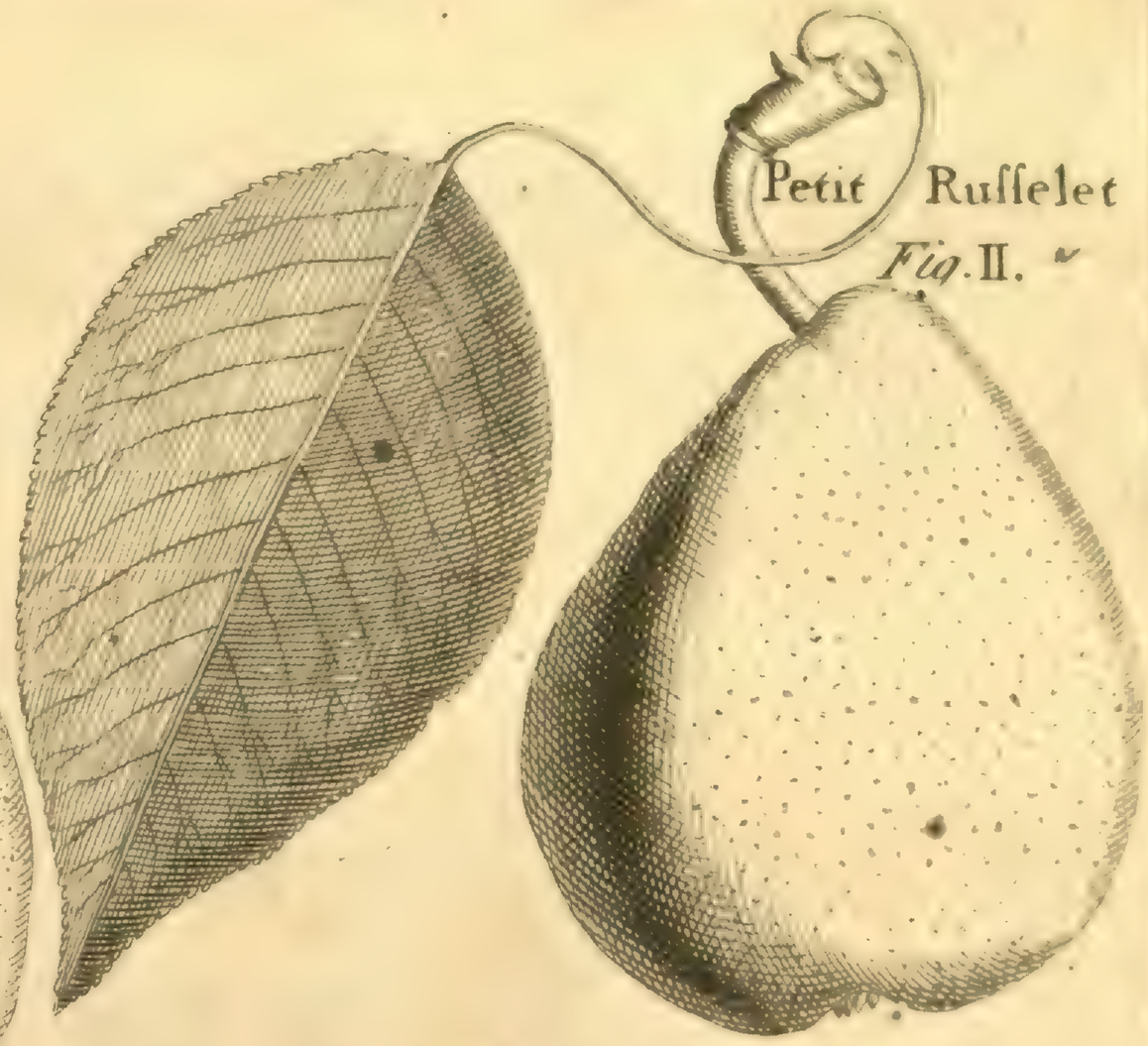
Fig. VIII. Swifs Burgamot
Ripe Oct. 10
1727.

B Langley Delin

I Carwitham Sculp

Fig. I.
Brown Meffire Jean
Sep. 10. 1727.





Petit Russelet
Fig. II.

Fig. III.
Buree de Roy
Sep. 10. 1727.

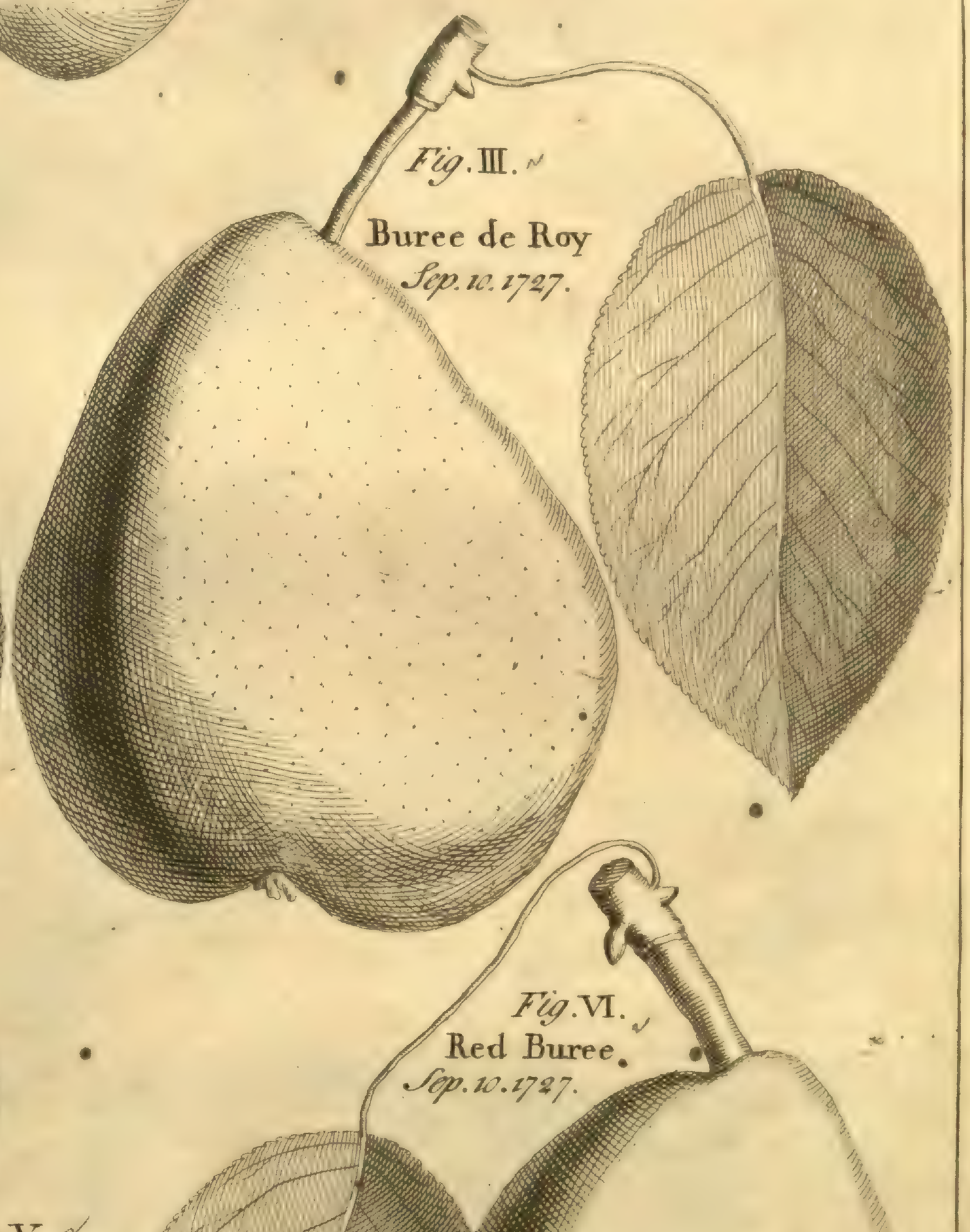


Fig. IIII.
Swans Egg
Sep. 20.
1727.

Fig. V.
Salviati
Sep. 20.
1727.

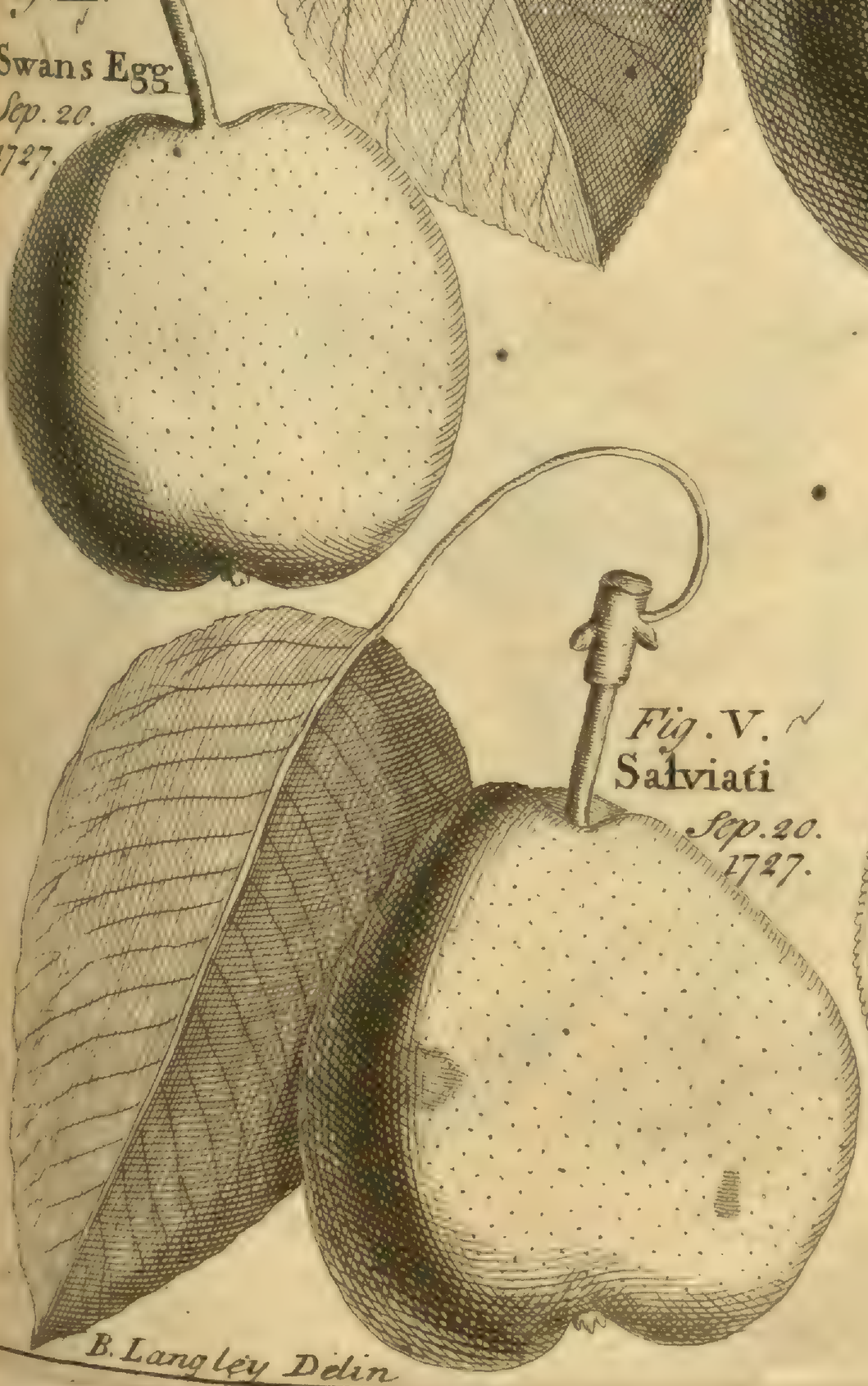
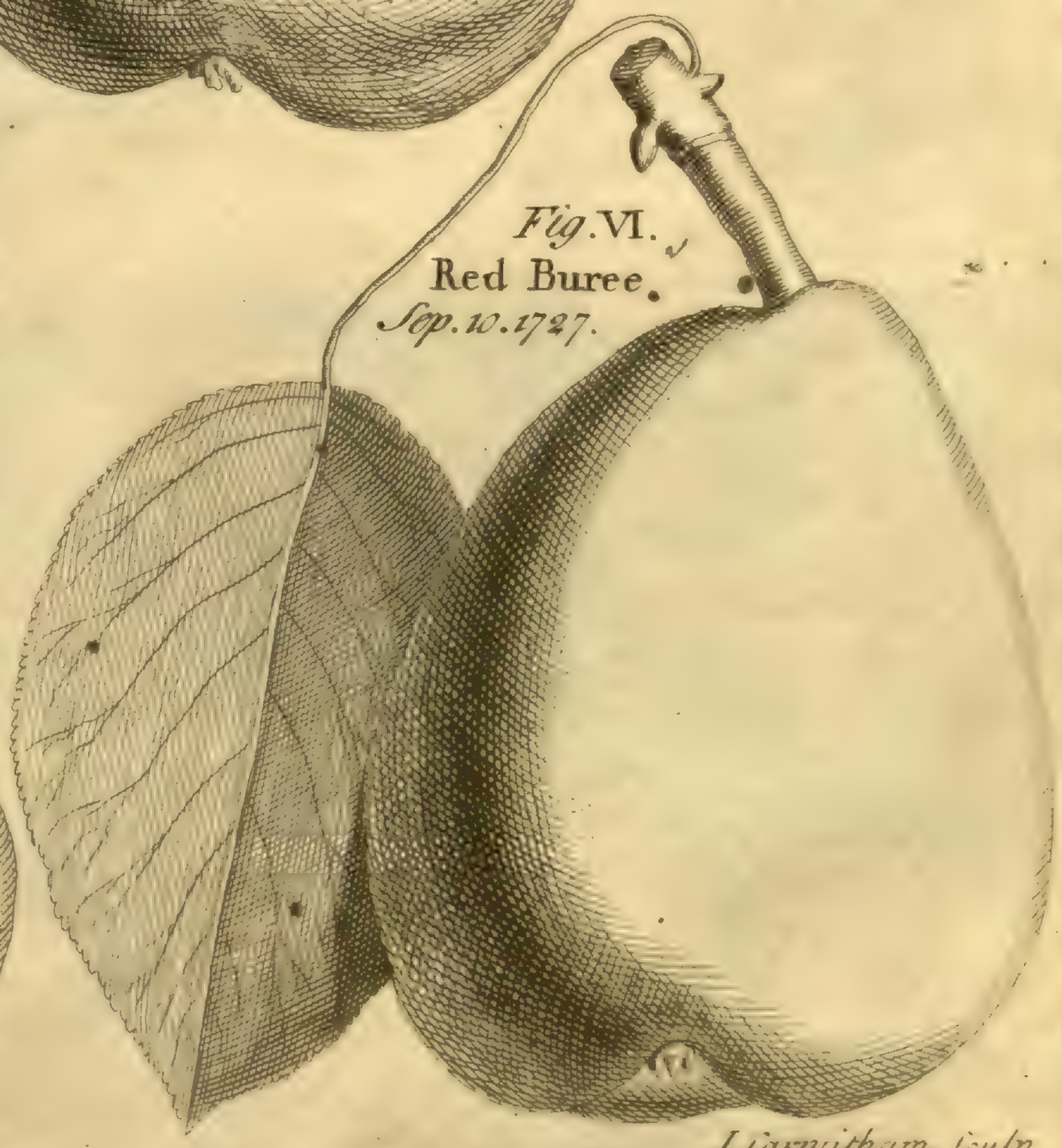


Fig. VI.
Red Buree.
Sep. 10. 1727.

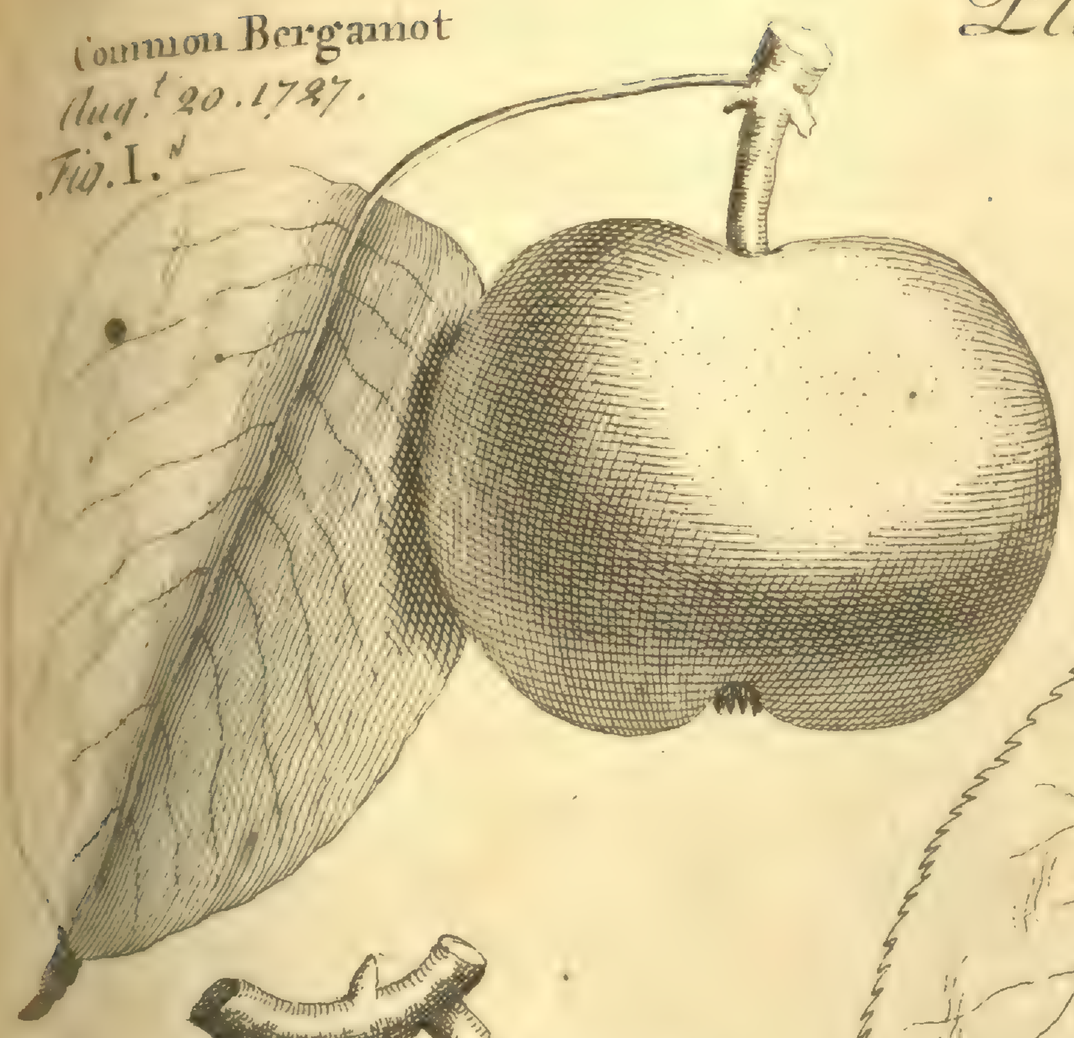


B. Langley Delin

I. Garnitham Sculp

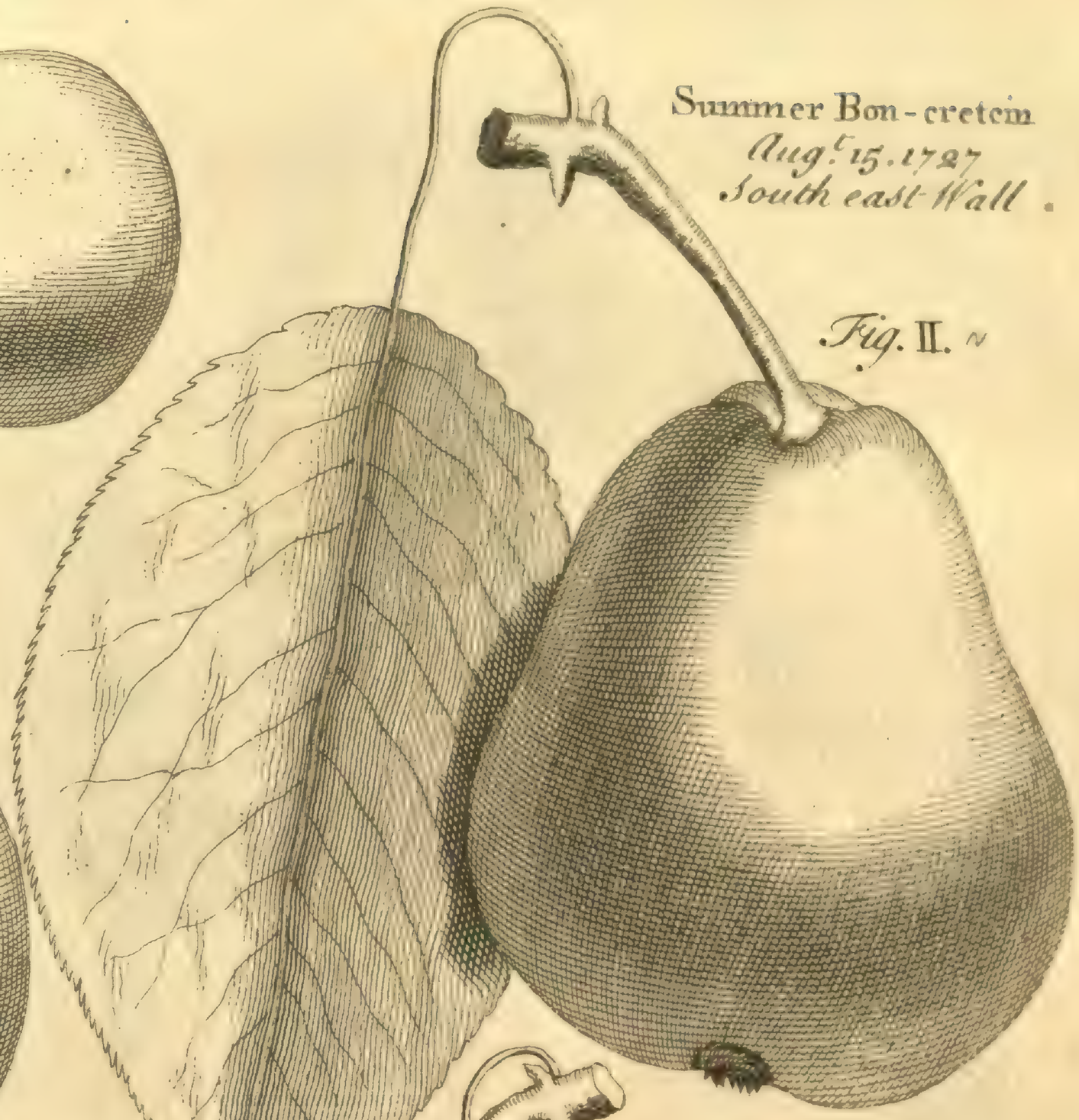
Plate LXV

Common Bergamot
Aug.t 20. 1727.
Fig. I.

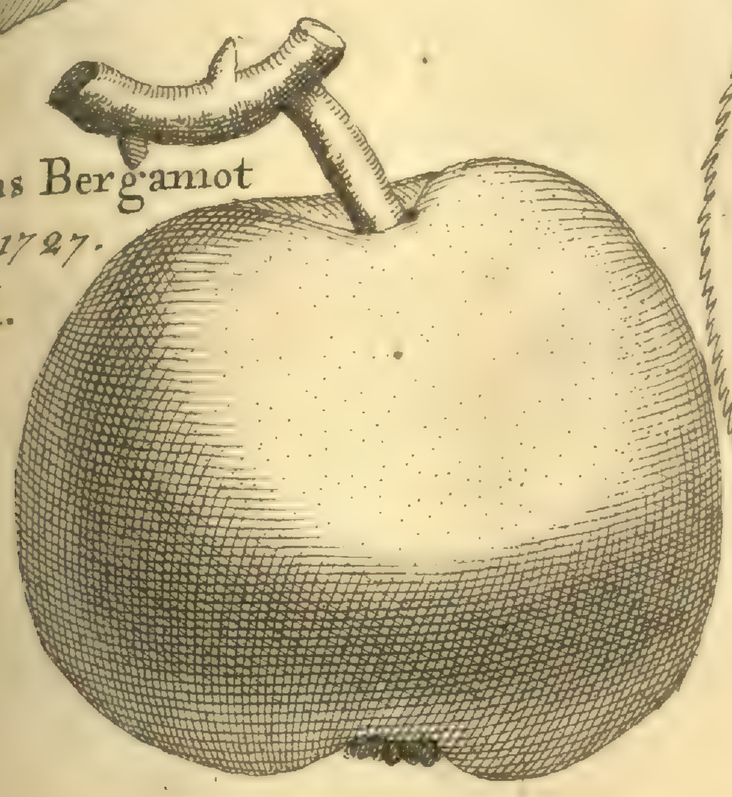


Summer Bon-cretein
Aug.t 15. 1727
South east Wall.

Fig. II.



Handens Bergamot
Aug.t 2. 1727.
Fig. III.



Groos Ruffellet
Aug.t 24. 1727
South east Wall
Fig. IIII.

Crasann
Sept. 20. 1727.
Fig. V.

Portugal pear quince
in Blossom
27 April. 1727
Fig. VI.

Fig. VII.
Portugal pear quince
Set for growth May. 10. 1727
B. Langley. Delin.

For Gucht Sc.

St. Germaine.
Oct. 10. South wall.

Fig: II.

White
Monsieur Jean.
Sept. 10. Dwarf.

Fig: I.

Fig: III.

Bezidery. *Sept.* 20.
Dwarf.

Ambret
S.E. wall 20. Deg.

Fig: IIII.

Satin pear.
Sept. 20.
Espalier.

Bugy
Berg.t
West wall.
Sept. 20.

Fig: V.

Fig VI

B. Langley delin:

T. Bowles Sculp.

Plate LXVII.

Fig: I.

Winter
Bergamot.
South wall *Sept.* 20.

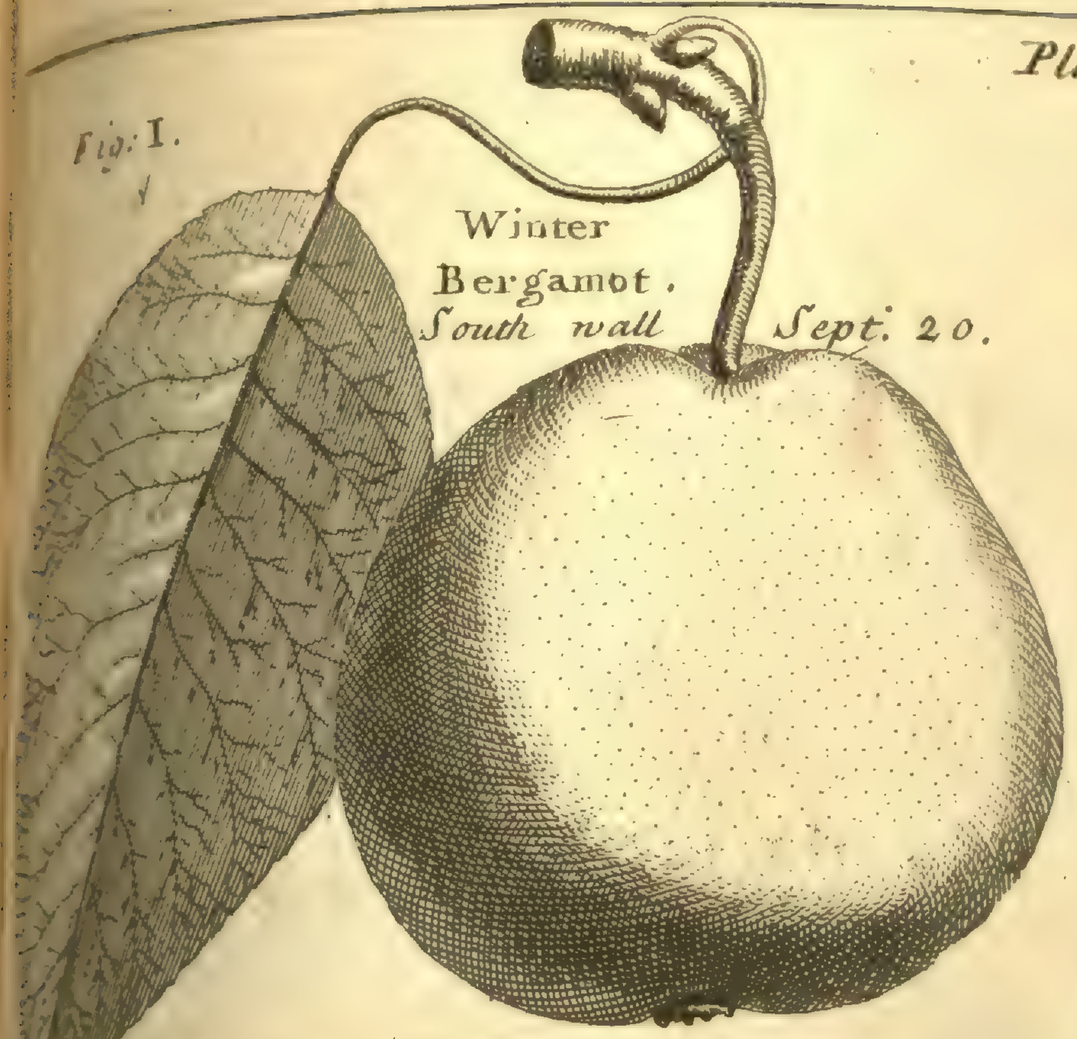
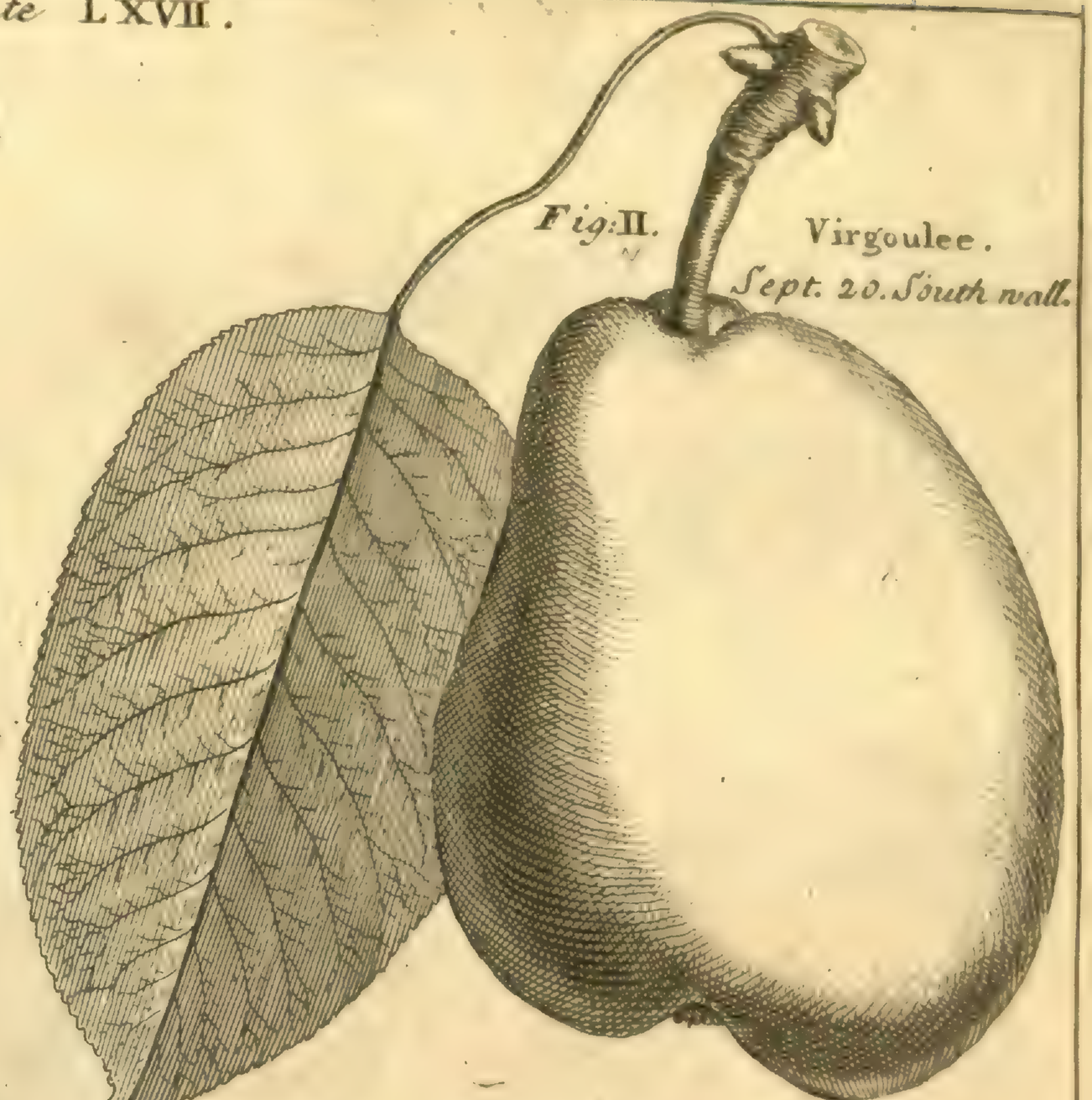


Fig: II.

Virgoulee.
Sept. 20. *South wall.*



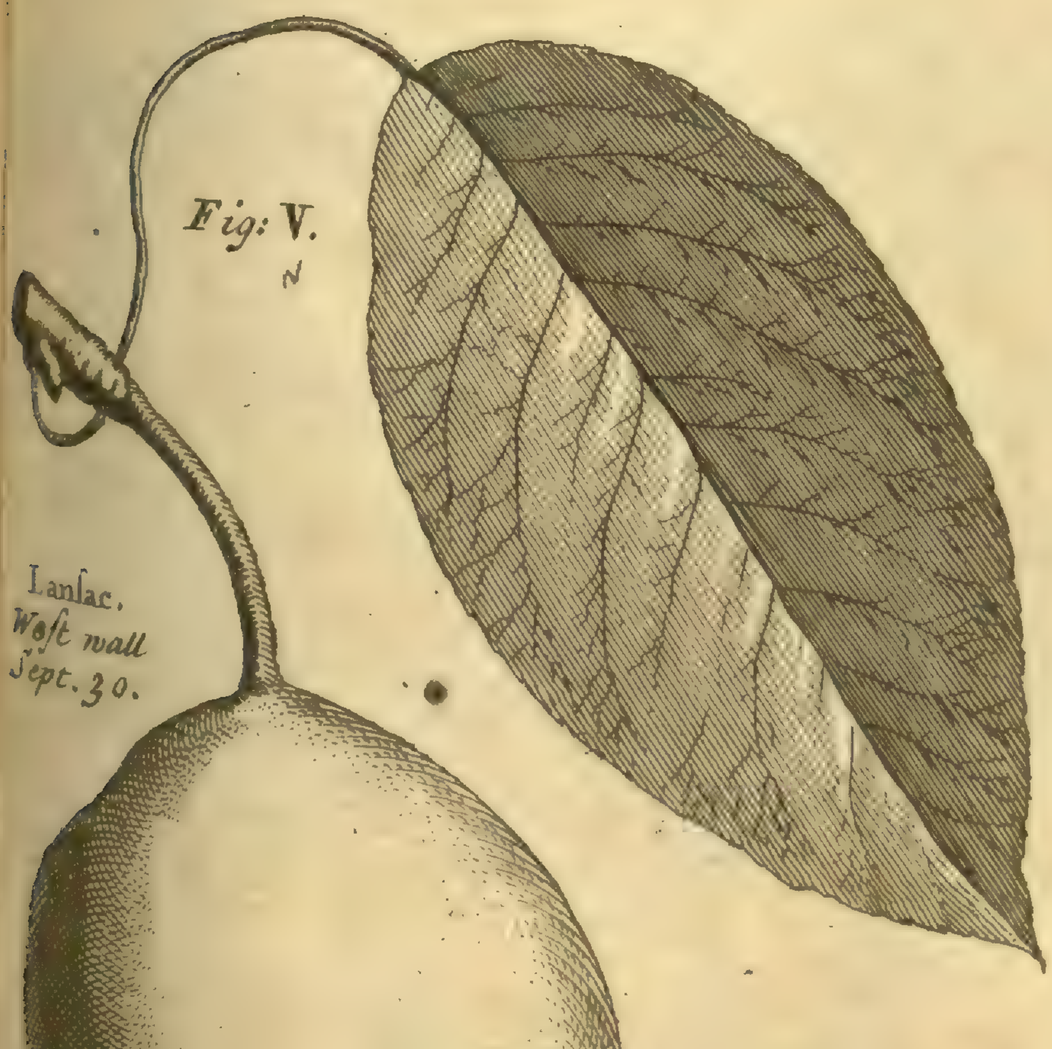
Colmar.
S. E. wall.
Sept. 20.

Fig: III.

Fig: IIII.

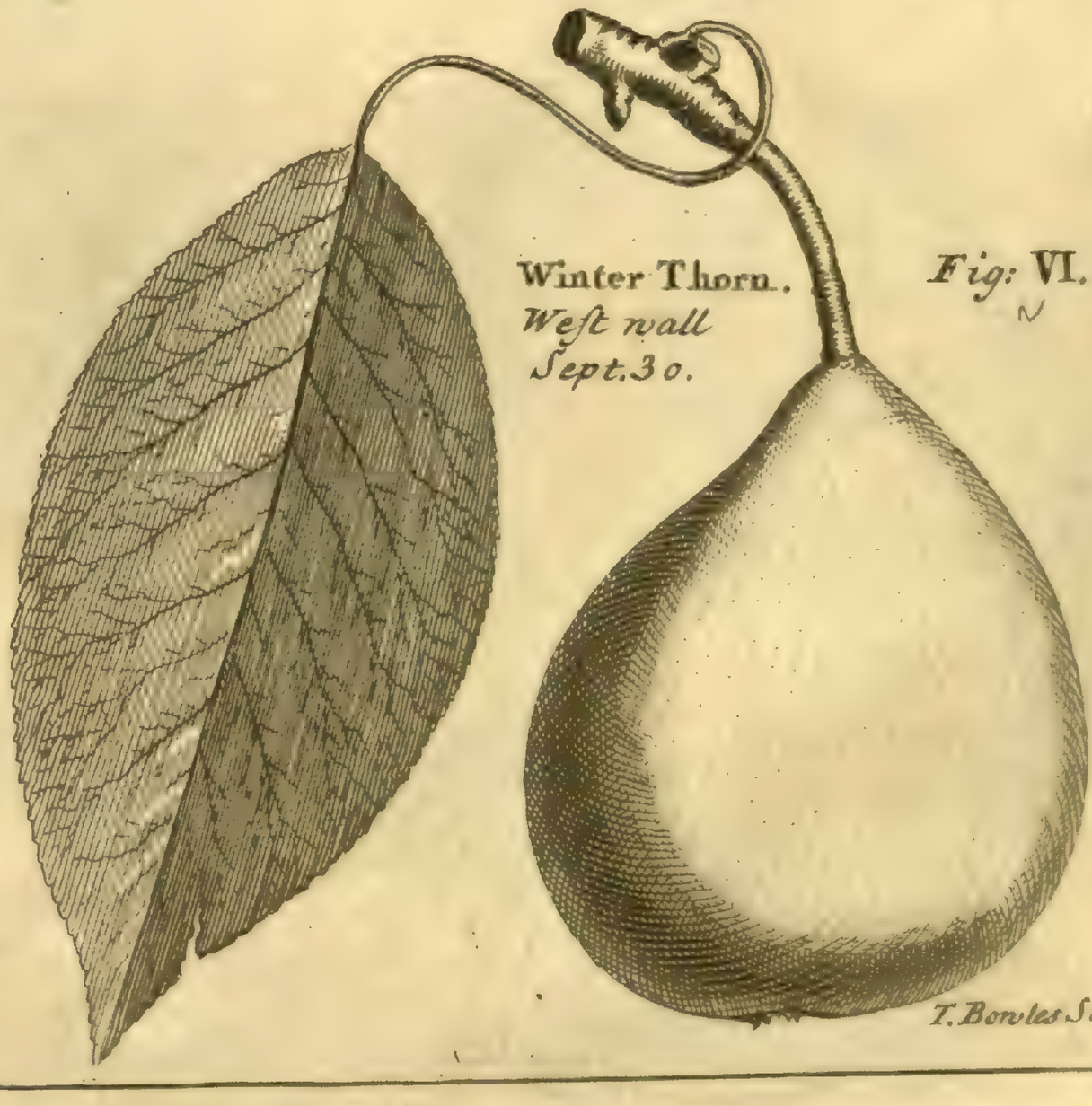
Royal d'hyver
East wall
Sept 30

Fig: V.



Lanfac.
West wall
Sept. 30.

Fig: VI.



Winter Thorn.
West wall
Sept. 30.

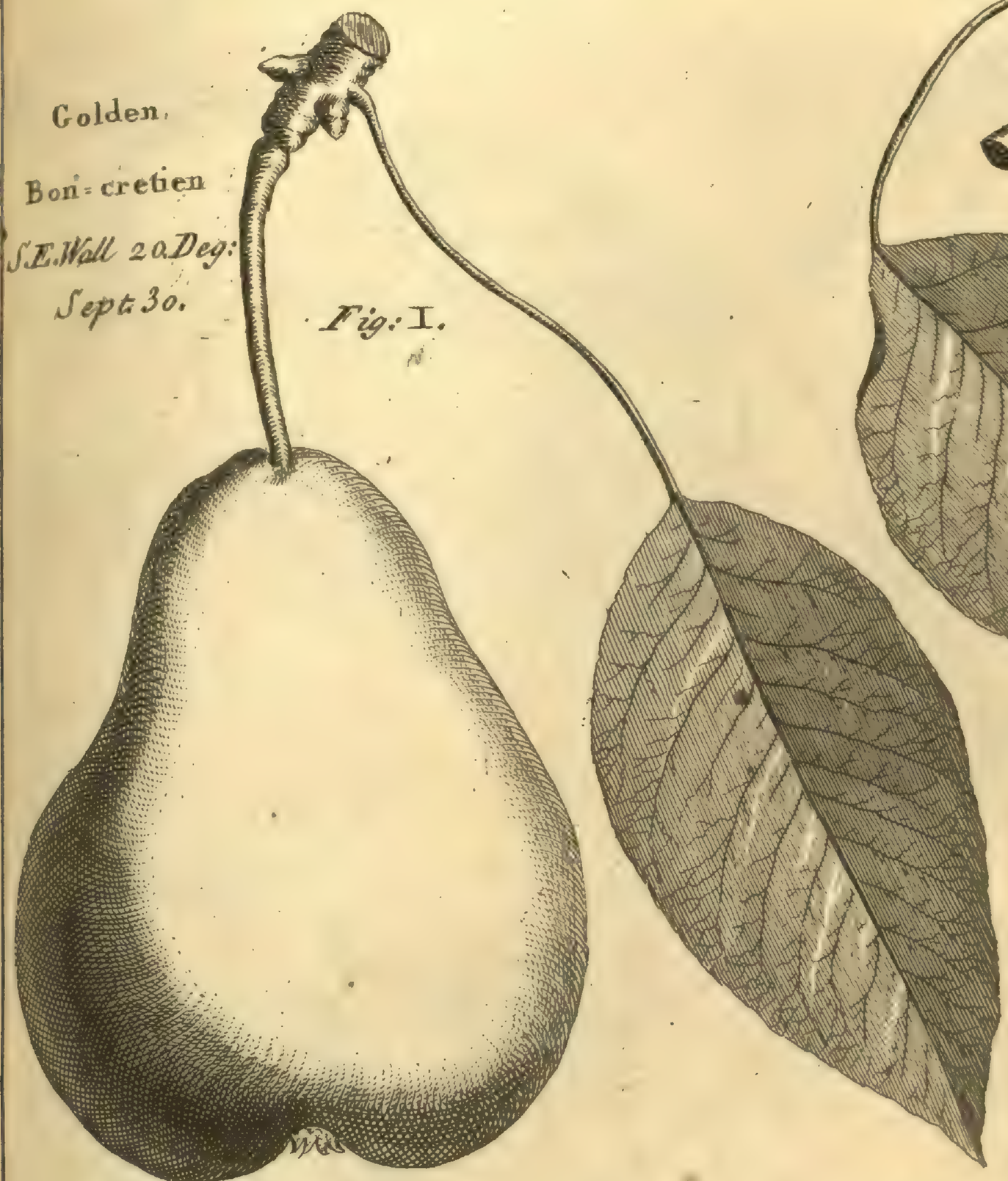
B. Langley delin:

T. Bowles Sc.

Plate LXVIII.

Golden
Bon-cretien
S.E. Wall 20 Deg:
Sept. 30.

Fig: I.



Spanish
Bon-cretien
South wall Sept 20

Fig: II.

Winter Bon-cretien
West wall Oct. 10. 1727.

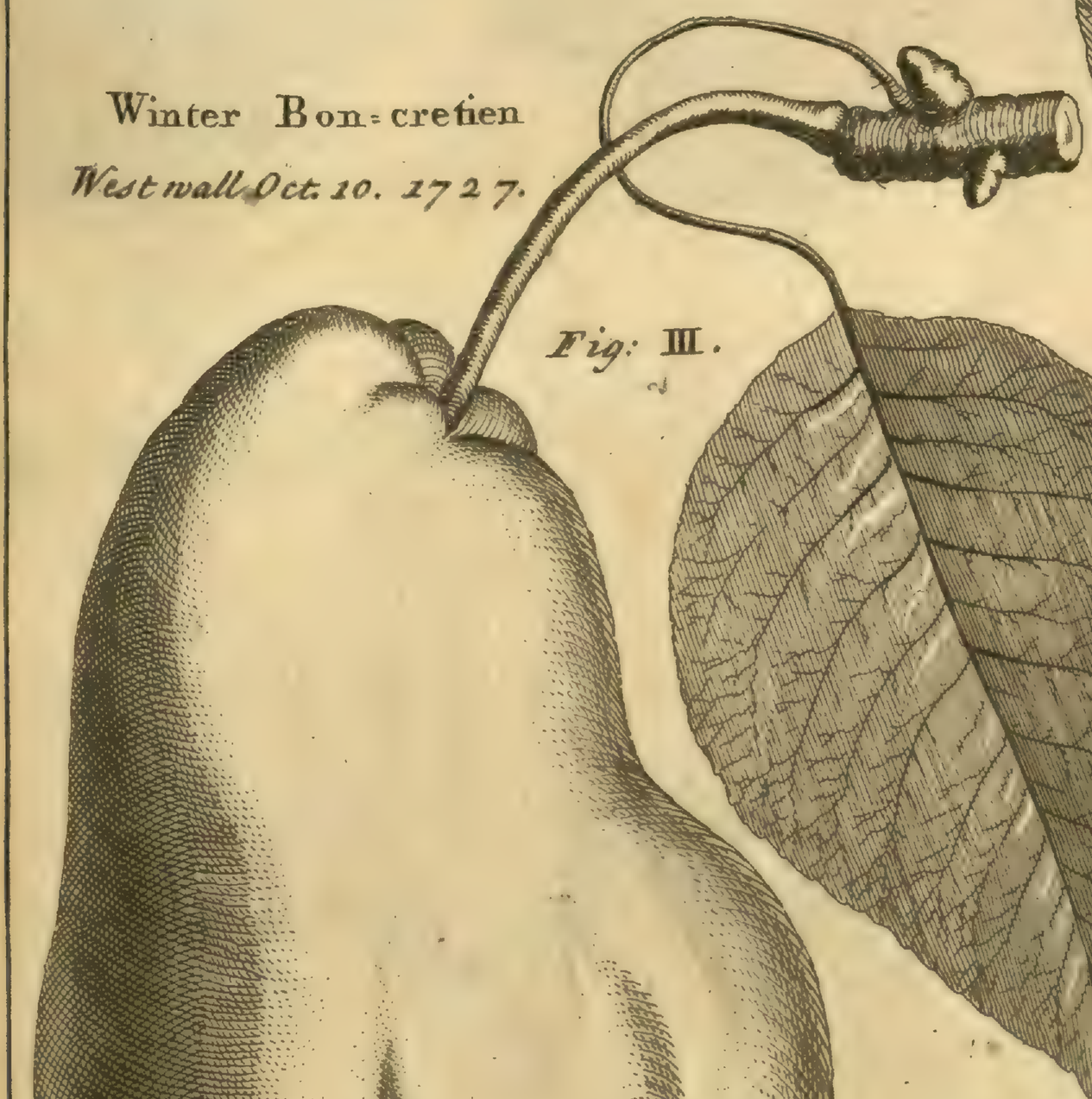


Fig: III.

Fig: IIII.

Marquis
West wall
Sept. 30.

B. Langley Delin:

T. Bowles Sculp.

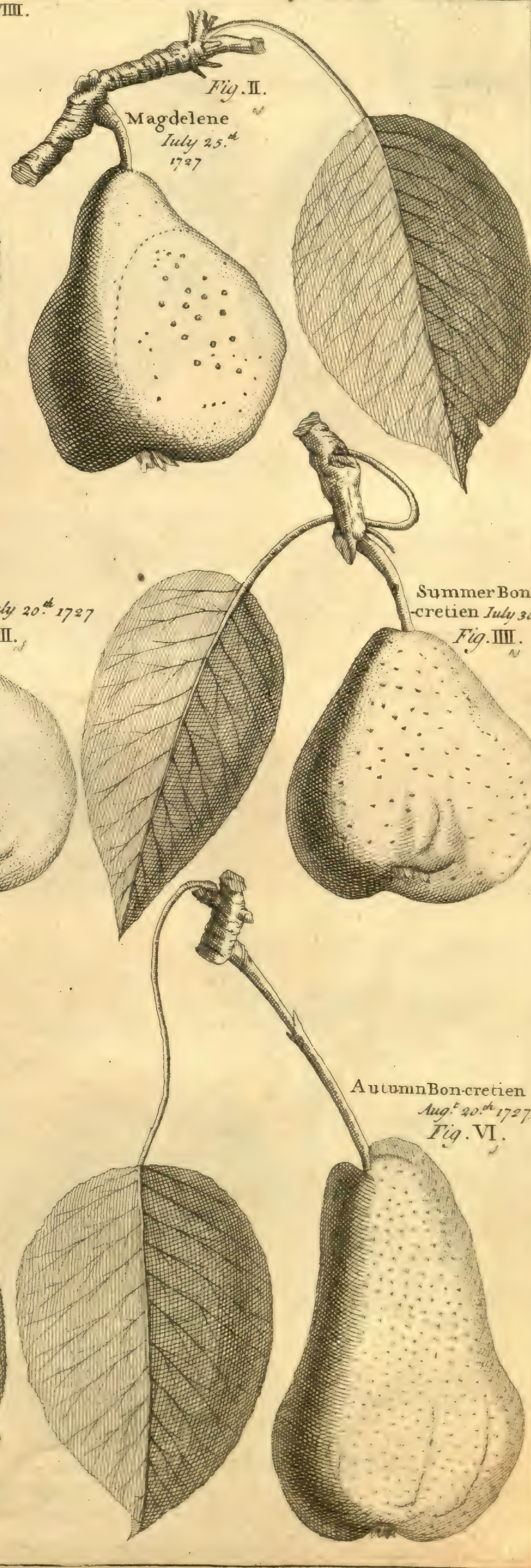
Plate LXVIII.

Fig. I.

Lombard
July 25.th
1727.

Fig. II.

Magdelene
July 25.th
1727



Rozate *July 20.th 1727*

Fig. III.

Summer Bon-
-cretien *July 30.th*

Fig. IIII.

Iohnſtons *Sep.t 10. 1727*
Unknown

Fig. V.

Autumn Bon-cretien
Aug.t 20.th 1727.

Fig. VI.

B. Langley Delin

La Chaſserie
Fig. I.

Fig. II.
Winter Buree

Fig. III.
Pear Lewis

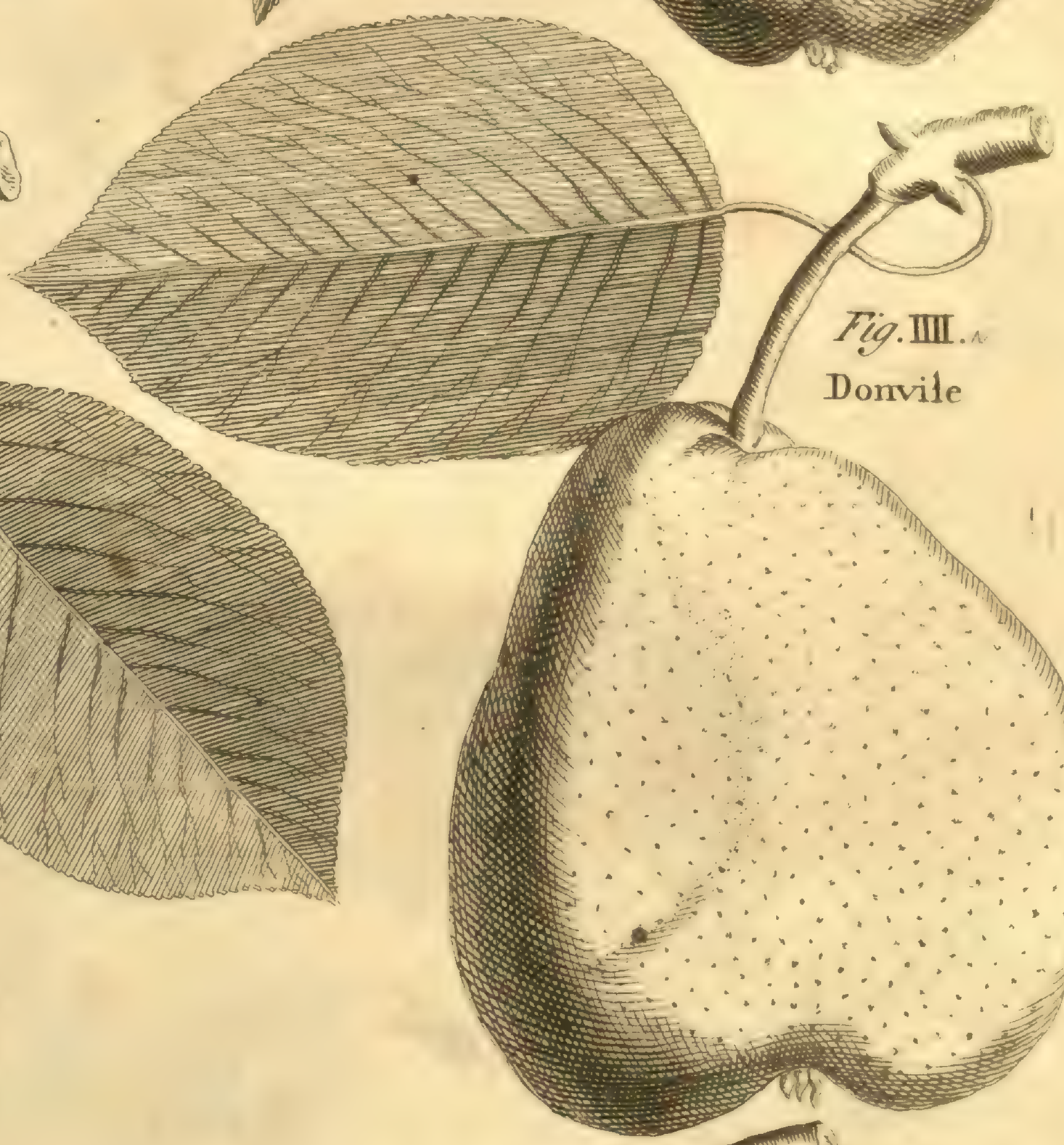


Fig. III.
Donvile

Fig. V.
S[t] Francis

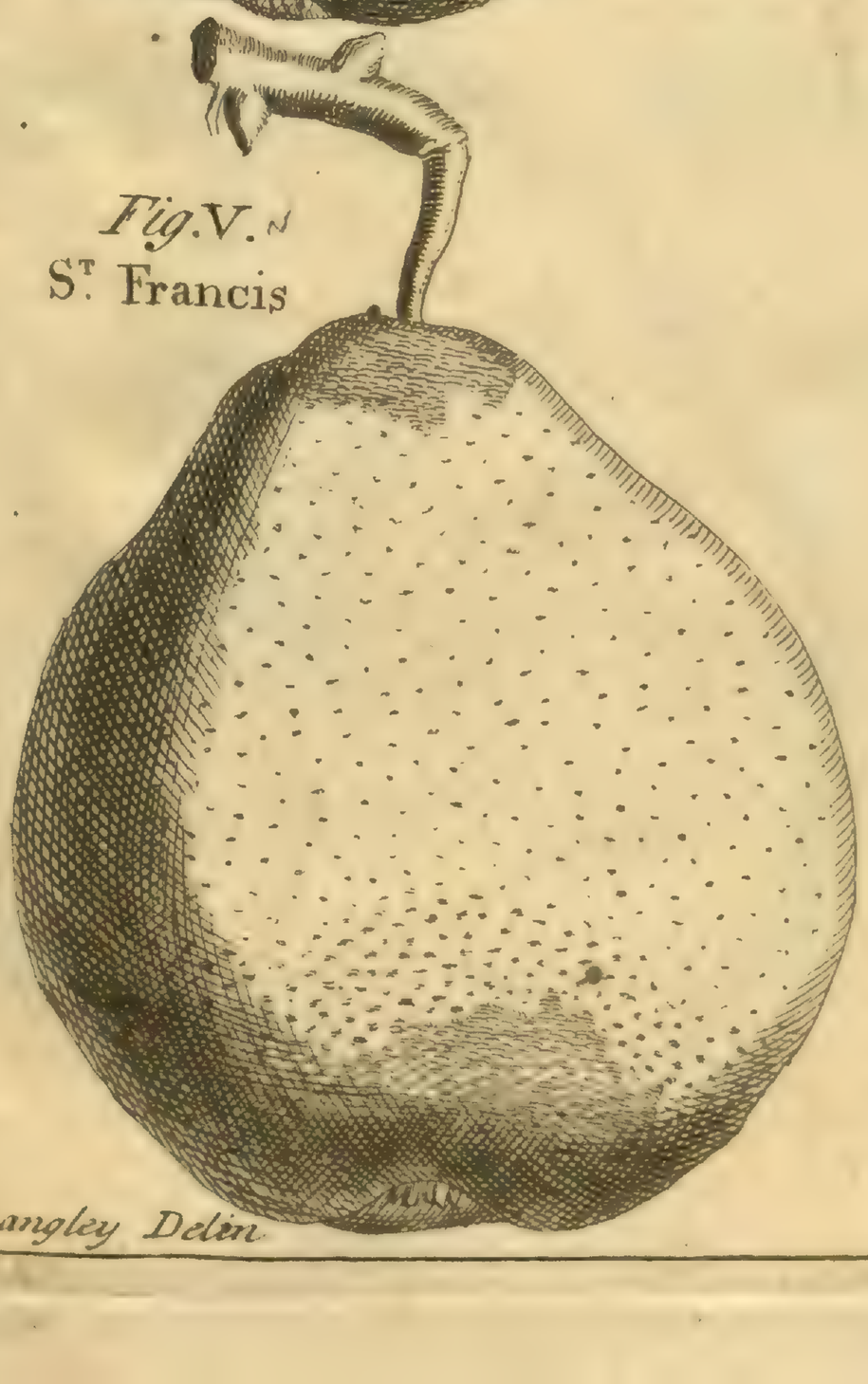
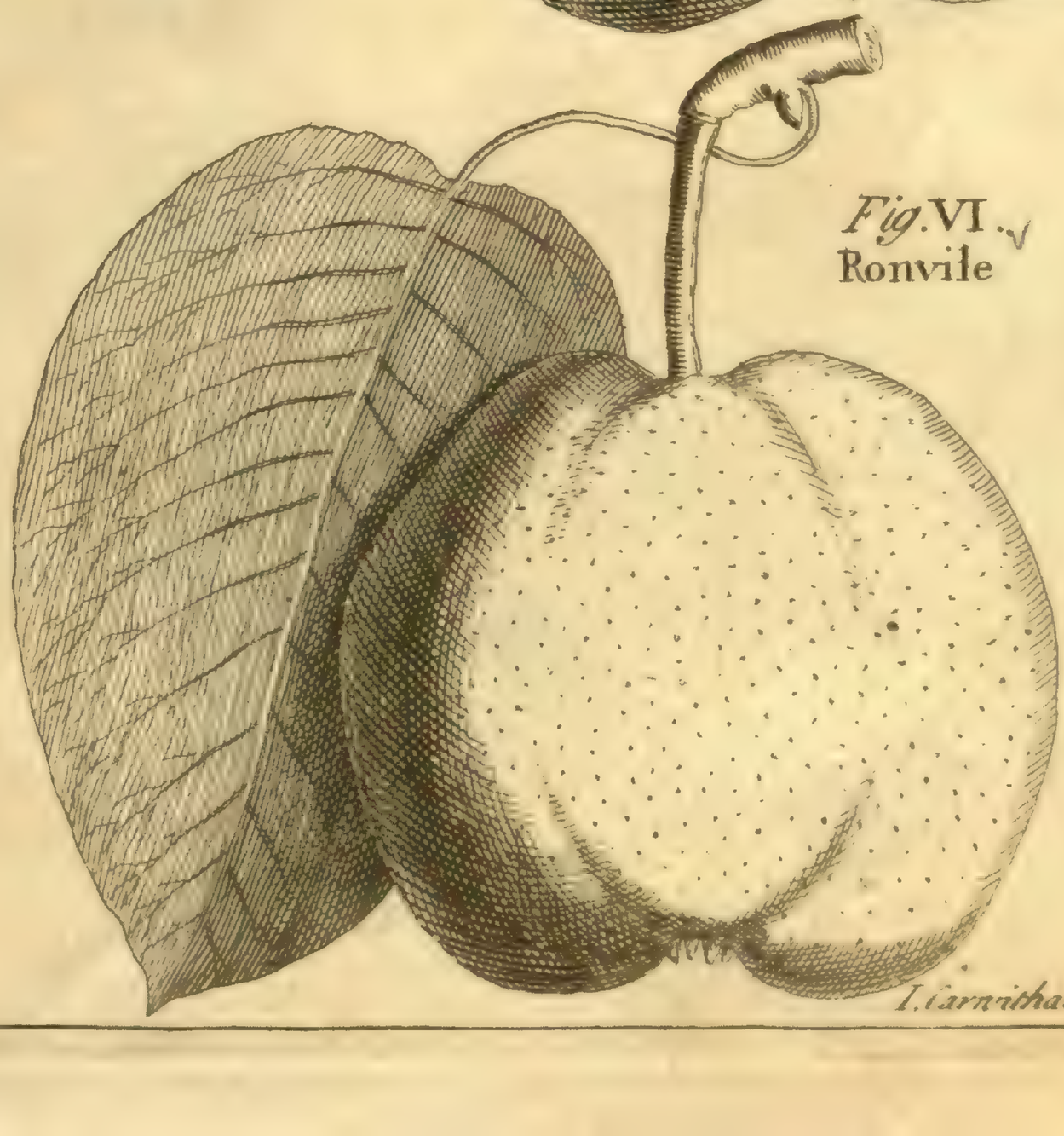


Fig. VI.
Ronvile



B. Langley Delin.

I. Carnitham Sculp.

Plate LXXI.

The Pickering Pear
or Dr. Udales *Warden*

Fig. I.

Black Pear
of Worcester

Fig. II.

Pound Pear

Fig. III.

Cadillac

Fig. IIII.

B. Langley Delin

I Carwitham Sculp

Plate LXXII.

Martin Sec
Fig. I.

Double Bloſſom
Pear.
Fig. II.

S^t^ Andrew
Fig. III.

Engliſh warden
Fig. IIII.

Muſcat almaine
Fig. V.

Fig. VI.

Bloody peach
Ripe Sept^r^ 10. 1727 Eaſtwall

B. Langley, Delin.

Ver Gucht Sc

Medlar *Fig.* I.

Portugal
Pear-Quince.
Fig. II.

Portugal
Apple-Quince.
Fig. III.

Service *Fig.* IIII.

English
Quince.
Fig. V.

Berberry

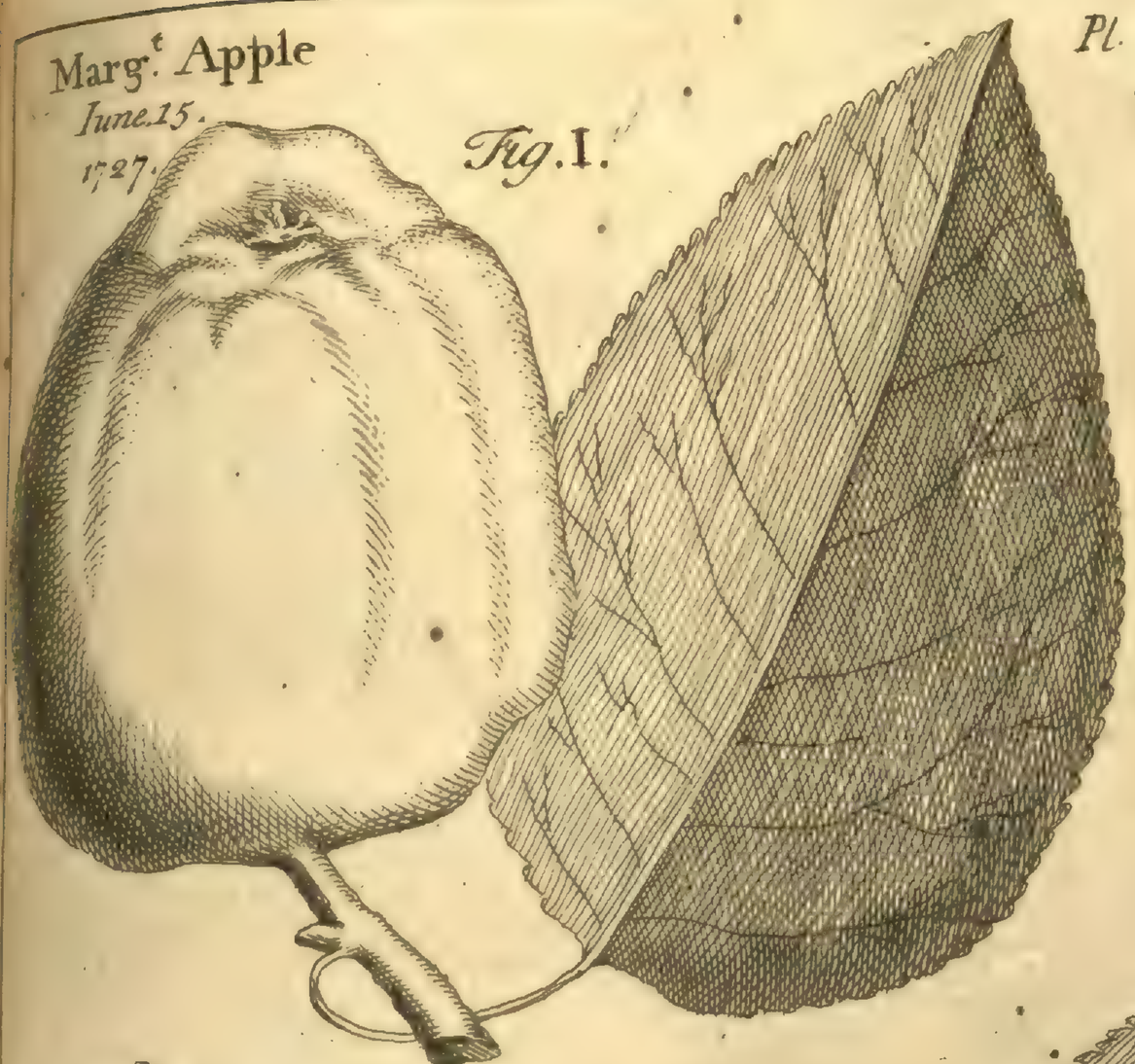
Fig. VI.

B. Cole. sculp.

Pl. 74

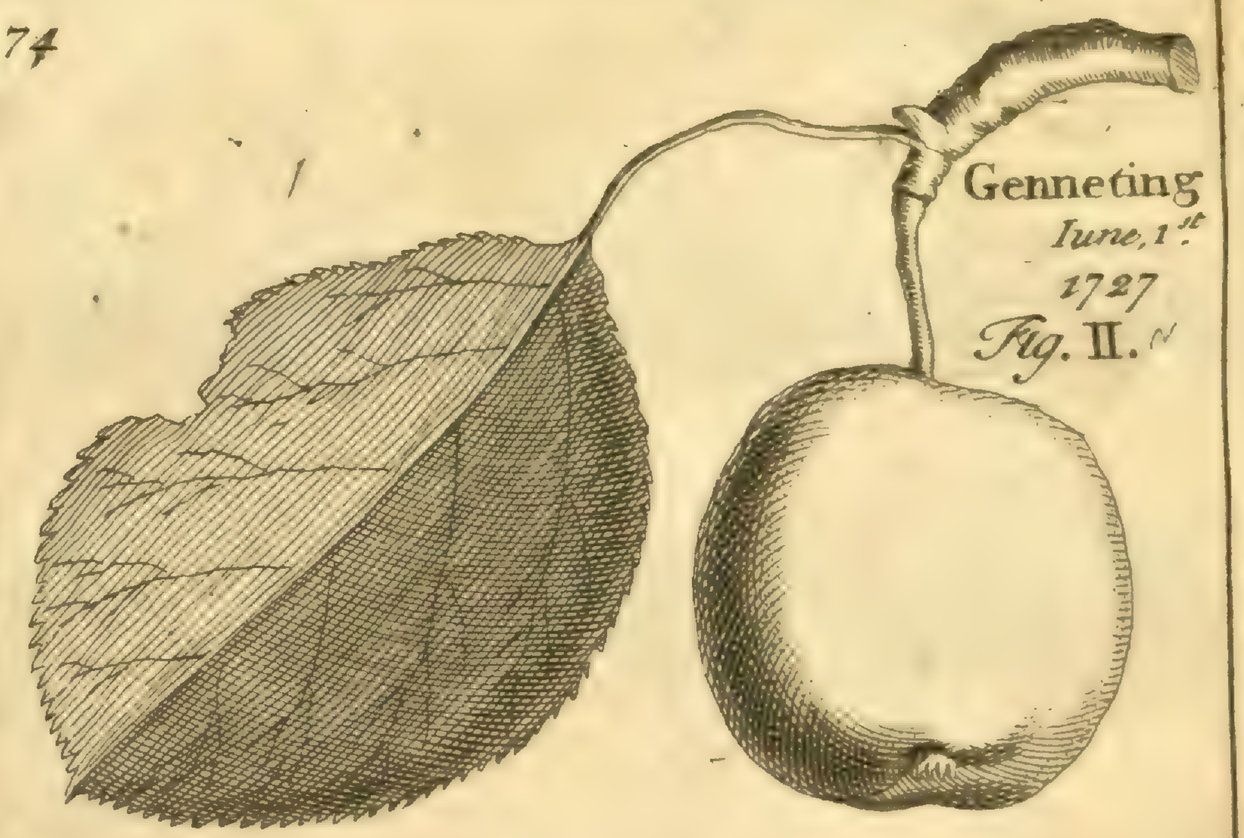
Marg.t Apple
June.15.
1727.

Fig. I.

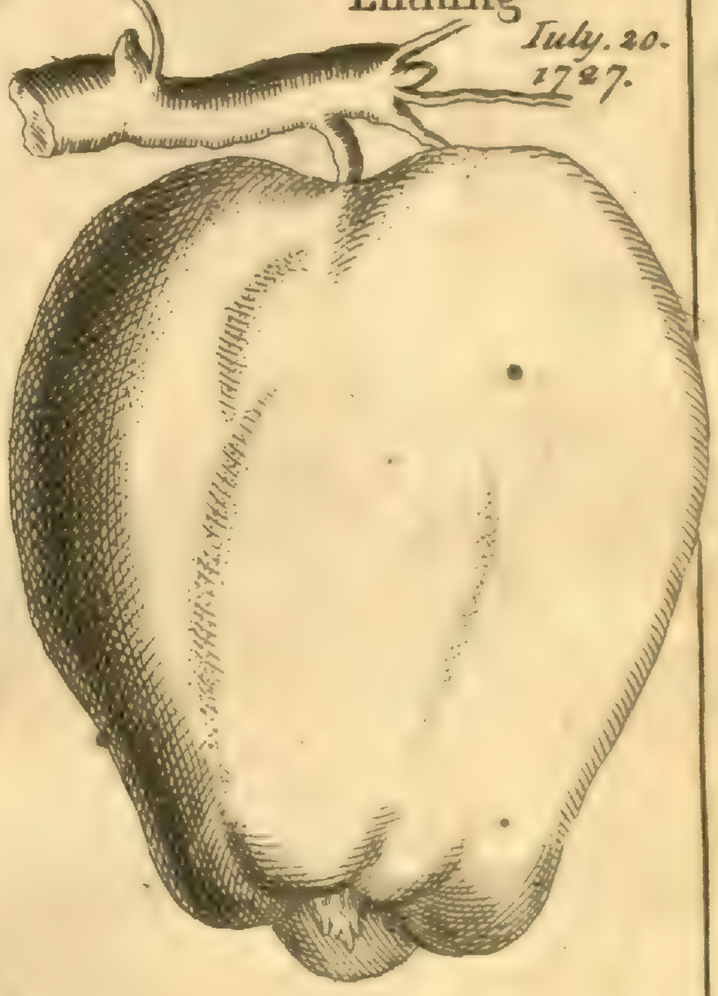


Genneting
June, 1.st
1727

Fig. II.

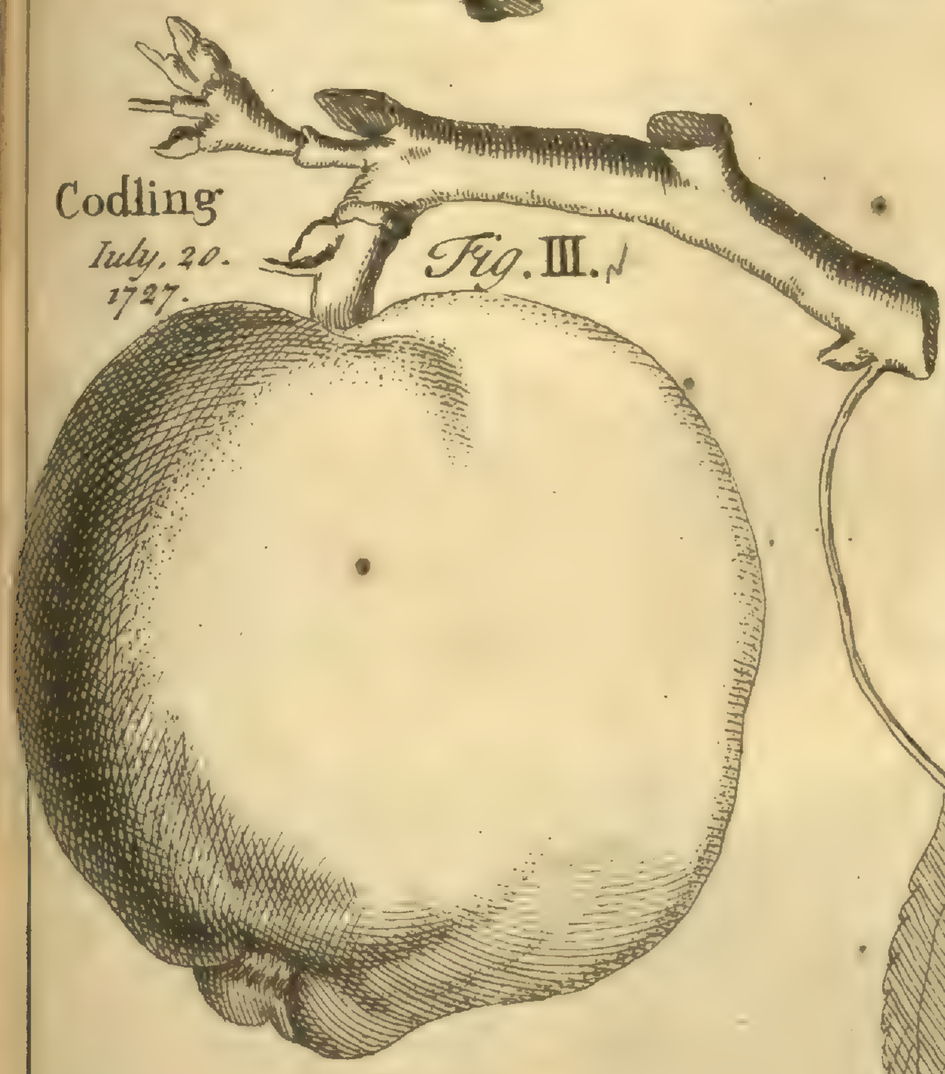


Liftning
July. 20.
1727.



Codling
July, 20.
1727.

Fig. III.



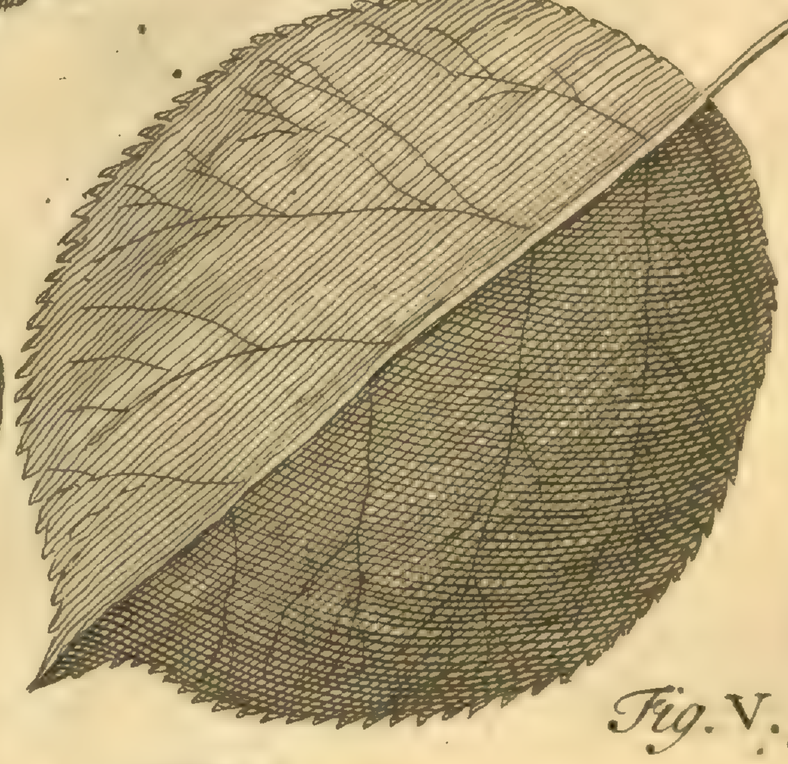


Fig. V.

Golden Rennet. *Sept.30. 1727.*

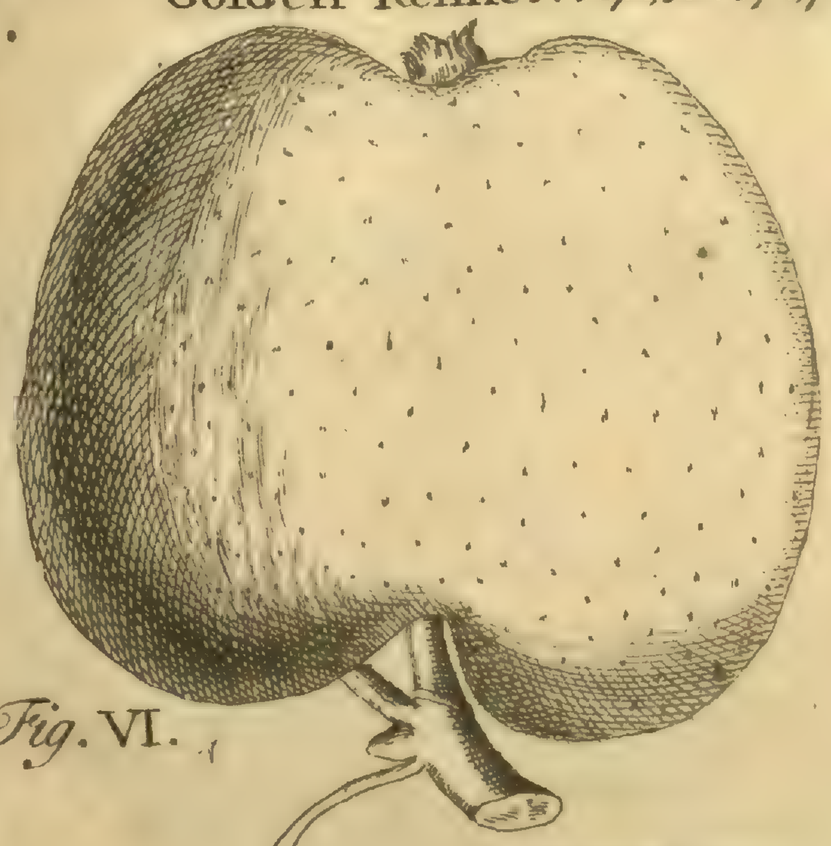


Fig. VI.

Kirton Pippin. *Sept. 30.*
1727.

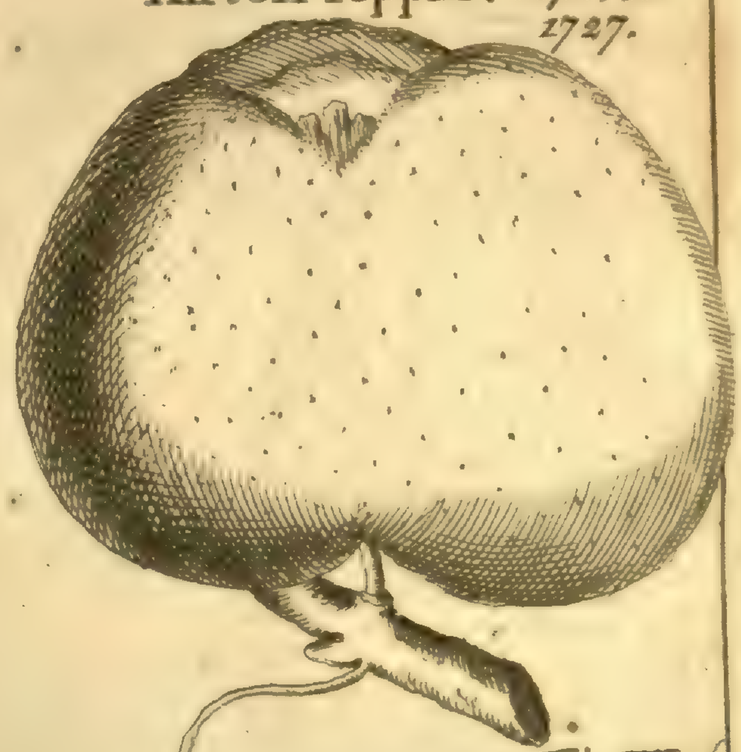


Fig. III.

Fig. VII.

Yellow Golden
Pippin *Sept.* 10
1727.

I. Carwitham Sculp

B. Langley Delin

Plate LXXV

Fenellet

Fig. I.

Corpendue Rennet

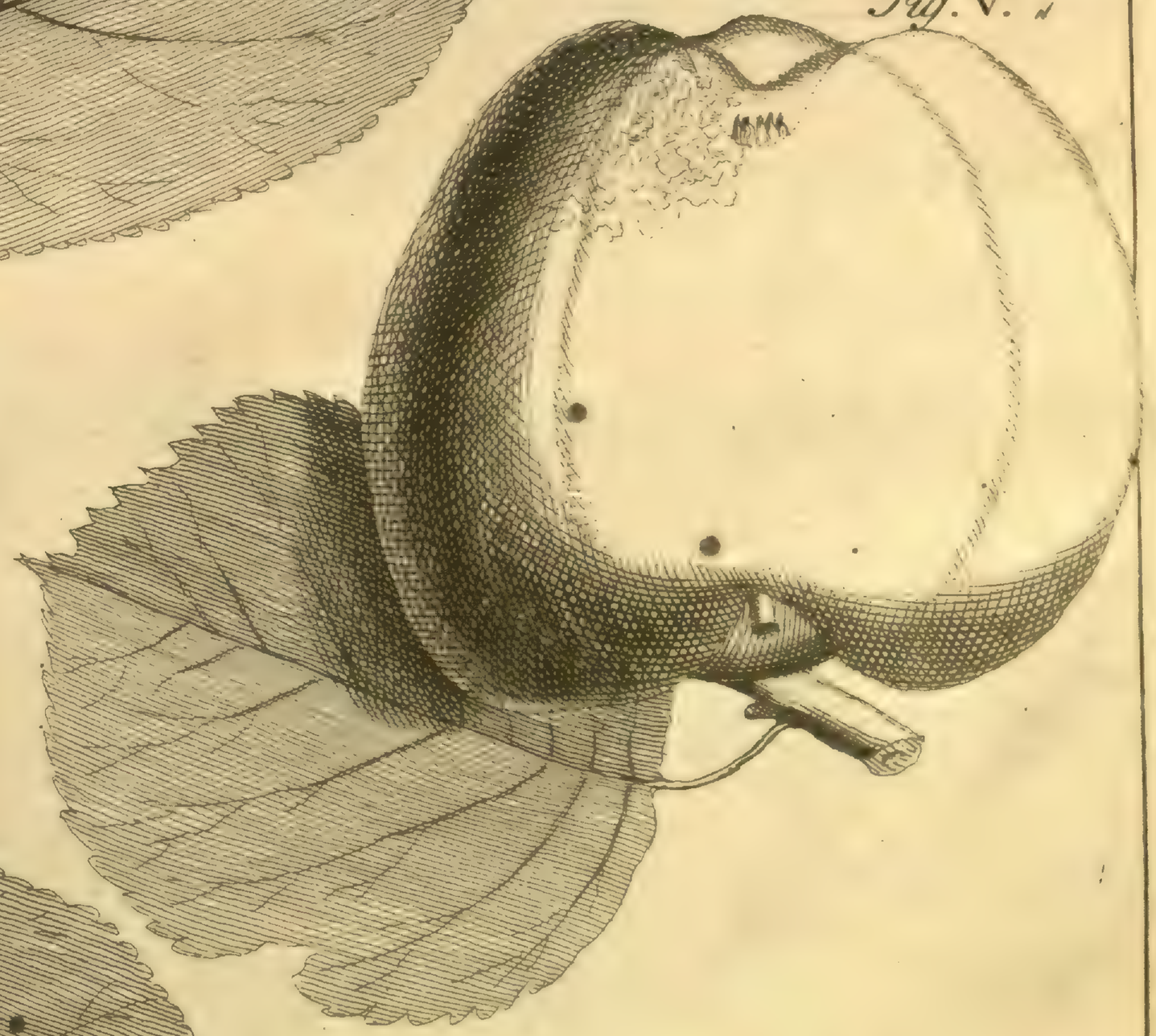
Fig. II.

Api *Fig.* IIII.

Fig. III.

Red Calvil

Maucoan *Fig.* V.



Royal Calvil

Fig. VI.

B. Langley Delin

I Carwitham Sculp

Plate LXXVI.

Fig. I.

Loans Pearmain

Fig. II.

French Rennet

Ierusalem Apple

Fig. III.

Fig. IIII.

French Pippin

Francatu

Fig. V.

Fig. VI.

B. Langley Delin

I. Carnitham Sculp

Royal Wilding
Fig. I.

Fig. III.
white Sower

Meadiate
Fig. II.

Stone Pippin. *Fig.* IIII.

Boft Apple *from*
Hanover

Pear ruffet Apple
Fig. V.

Fig. VI.

Pickerings
Pearmain

Fig. VII.

B. Langley Delin

I. Carwitham Sculp

Plate LXXVIII.

Calvile
Acoute

Fig. I.

Fig. II.

Super-
Cæleſtial

Fig. III.

Monſterous
Rennet

Winter
Pearmain

Fig. IIII.

Spencer
Pippin

Fig. V.

June Apple. *Fig.* VI.

St. Iohn Aloes
Rennet

Fig. VII.

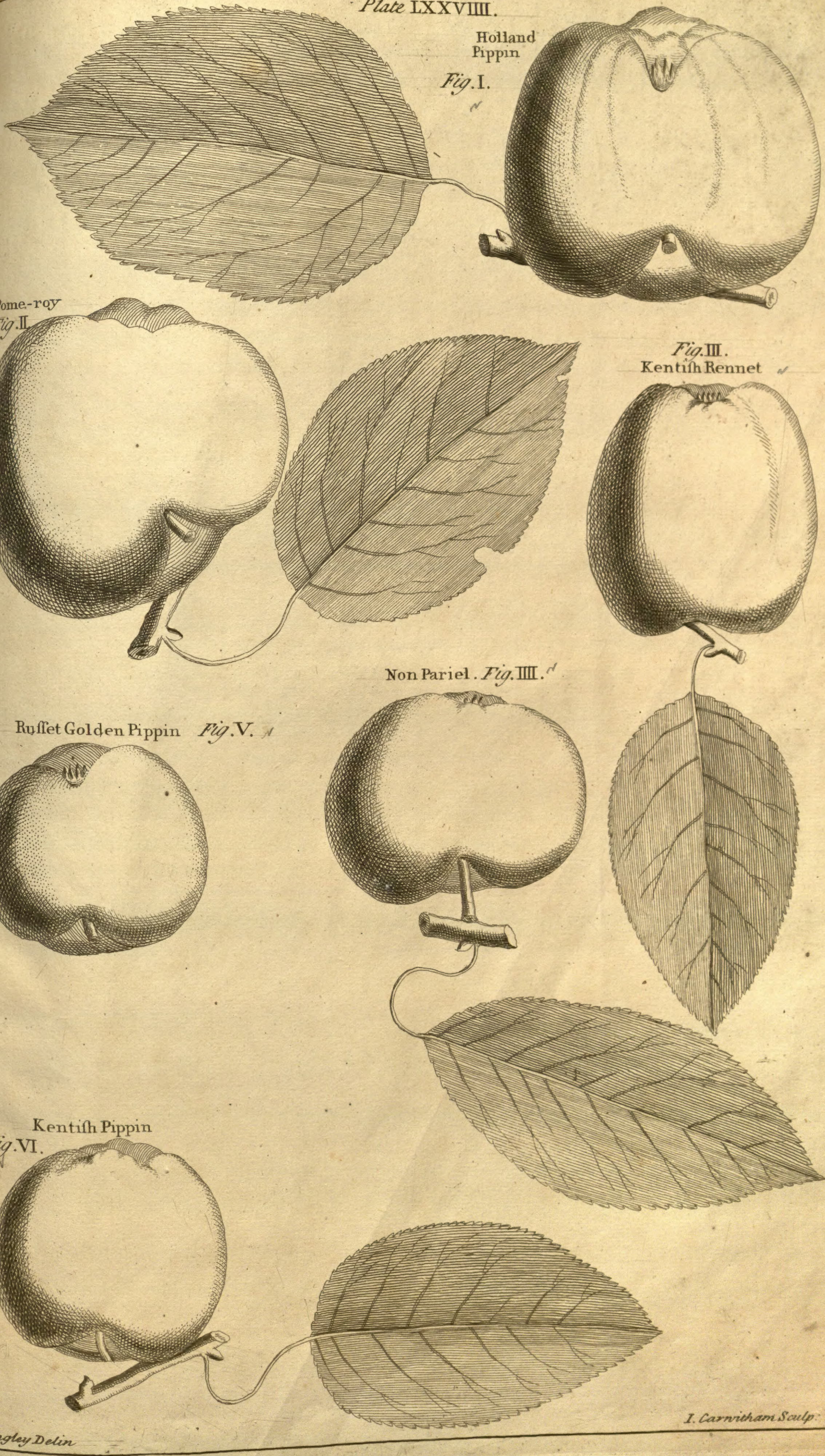
B. Langley Delin.

I. Carnitham Sc.

Plate LXXVIIII.

Holland Pippin

Fig. I.



Pome-roy

Fig. II.

Fig. III.

Kentish Rennet

Non Pariel. *Fig.* IIII.

Russet Golden Pippin *Fig.* V.

Kentish Pippin

Fig. VI.

B. Langley Delin

I. Carwitham Sculp: